

Lake Marion Creek & Reedy Creek Management Areas Five-Year General Management Plan (2005 – 2010)

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Land Stewardship Division South Florida Water Management District 3301 Gun Club Road West Palm Beach, Florida 33406

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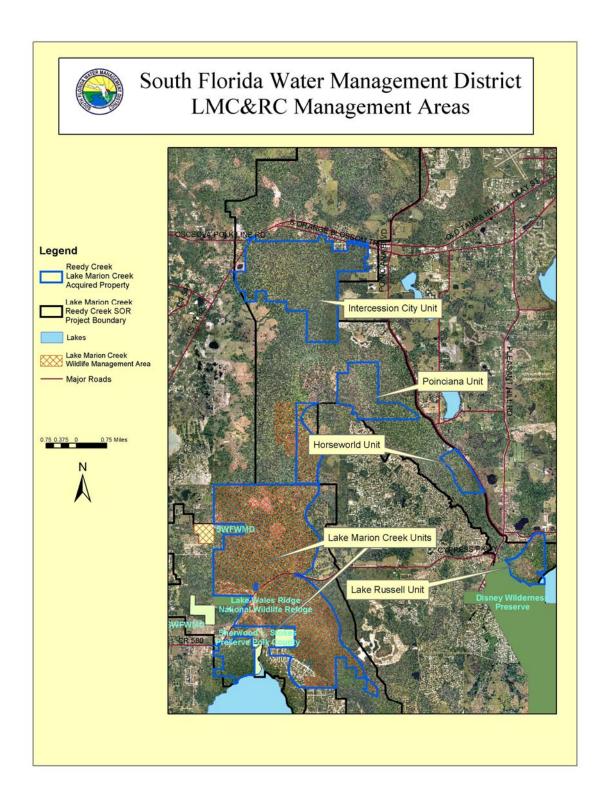
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Map 1: Lake Marion Creek & Reedy Creek Management Area



1. Executive Summary

This document compiles important management information concerning the Lake Marion Creek/Reedy Creek Management Area (Management Area) and was written to comply with District policy 5.001 that requires development of general management plans for each designated Save Our Rivers (SOR) project. This plan lists management goals and objectives, provides historic and current site information, and describes specific management issues and activities relating to natural resources, public use, and project administration for the period 2005 through 2010.

The Lake Marion Creek/Reedy Creek Management Area includes ecologically sensitive wetland and upland areas that harbor a diverse array of plant and animal species including many listed as threatened or endangered. The Management Area is characterized by a rich diversity of habitat types including hardwood swamps, pine flatwoods, cypress swamps, oak hammocks, marshes, ponds, and scrub. Wetlands comprise approximately fifty percent of the Management Area, and most are within the 100-year flood plain. Consequently, the area is of critical importance to the recharge of the Floridian Aquifer because the deep sands of the Lake Wales Ridge allow water to infiltrate into the ground, rather than run off.

The South Florida Water Management District (District) has taken a lead role in the acquisition and management of the Management Area, while seeking assistance from other governmental agencies and non-governmental groups. The District began purchasing lands within the Management Area in 1994 through the SOR program. The majority of land was acquired from July 1994 to May 1997. The Management Area comprises approximately 12,651 acres located in eastern Polk and western Osceola counties.

The management guidelines listed in this plan adhere to founding SOR legislation and District Land Stewardship Program (LSP) policy 05.001 that directs management to conserve and protect water resources, protect or restore the natural state and condition of natural and historic resources, and provide compatible public use. The South Florida Water Management District (District) cooperatively manages the Management Area with the Florida Fish and Wildlife Conservation Commission (FWC).

Natural resource management on the Management Area includes the maintenance of natural vegetative communities; wildlife management; and the protection of rare, threatened, and endangered species. Prescribed fire, vegetation management, and forest management are used to preserve, protect or enhance natural resources. Current natural resource management activities are focused on exotic plant control, prescribed burning, vegetation management, and environmental restoration on recently purchased mitigation scrub sites. Monitoring endangered, threatened, and other listed species are also priorities, as is the designation of lands within the project area for adding to the existing Type I Wildlife Management Area.

Cultural resource protection and management is an important goal of District stewardship on the Management Area. The Land Stewardship Program has assisted the Florida Department of State, Division of Historical Resources (FDHR) to complete investigations of the Management Area historical sites as required by Chapter 276, Florida Statues. The

Lake Marion Creek/Reedy Creek Management Area General Management Plan 2005 - 2010 South Florida Water Management District, Land Stewardship Division

Management Area contains several important Native American habitual sites that are documented in state records and protected through management activities.

Resource protection is accomplished through regular Florida Fish & Wildlife Conservation Commission (FWC) law enforcement patrols, controlled public access, and maintenance of perimeter fencing. Boundary posting and public information signage is used to encourage proper public use.

Historically, outdoor recreational activities such as hiking, boating, hunting, horseback riding, and fishing were common in the area and will continue under the District's management program, commensurate with the environmental sensitivity of the area. As the lead management agency, the District will attempt to create formal and informal cooperative agreements for the management of these natural resource and recreational programs with those agencies and groups who possess an interest and expertise in the area. The District publishes and distributes a *Public Use Guide* for property users that defines rules and regulations, location of facilities, and recreational opportunities.

2. Management Plan Purpose

Florida Statutes 373.59 and 259.101 and District Policy #05.00117.2 require General Management Planss be developed for each designated SOR project. The plan fulfills the requirements of the Save Our Rivers legislation and South Florida Water Management District policy.

This general management plan (GMP) is based on present conditions and best management practices suitable for the LSP-managed properties within the Lake Marion Creek/Reedy Creek Management Area and the Upper Reedy Creek Management Area from March 2005 through March 2010. Specifically, this GMP will include the Lake Marion Creek WMA, and the four management units in the Upper Reedy Creek Management Area; Intercession City Unit, Poinciana Unit, Lake Russell Unit, and Reedy Creek Unit (Horseworld). Throughout this GMP the area will be referred to as the Lake Marion Creek/Reedy Creek Management Area (Management Area).

This GMP describes a level of management for the Management Area which the District will strive to achieve. The plan consolidates current site information and general guidelines for management of the area. It also updates and replaces the Lake Marion Creek/Reedy Creek Management Area Five-Year Conceptual Land Management Plan 1999 - 2003 (SFWMD 1999). As such, it serves as a collective information source for management staff, partners, and the general public.

Administrative management of Management Area is primarily coordinated out of the District's Orlando Service Center with assistance from staff in West Palm Beach and other regional offices. Administrative functions consist of funding, planning, reporting, and coordinating with external agencies. As part of these duties, this GMP will be updated and revised every five years and will be implemented through activity plans, annual work plans, and budgets.

<u>District policy 05.0011</u> states that the Land Stewardship Program's (LSP) mission is to provide natural resource protection and management while allowing appropriate recreational use on designated public lands. This mission statement together with requirements set forth in Florida Statutes 373.139 and 373.1391 provide three primary goals for LSP:

- Conserve and protect water resources
- Protect and restore the land in its natural state and condition
- Provide compatible public use opportunities

To accomplish these goals, the LSP performs five major functions:

- Protect and restore the land to its natural state and condition by controlling nuisance and exotic vegetation and the use of prescribed fire
- Protect listed plant and animal species

- Provide multiple-use opportunities, including grazing and forest management, as compatible with SOR program goals
- Provide opportunities for resource-compatible public use and environmental education
- Ensure compliance with established resource protection rules

2.1 Lake Marion and Reedy Creek Management Area Goals and Objectives

LSP functions are incorporated in specific MANAGEMENT AREA goals and objectives for the period of this management plan:

Goal 1: Manage natural communities and modified habitats to protect and enhance flora and fauna resources.

Objectives:

- Continue the regular application of fire through a well-planned and documented prescribed burning program. Prescribe burn 1,000-2,000 acres per year.
- Continue an aggressive, integrated exotic plant management program. Treatments will be documented and coordinated with other management activities. The entire project area will be surveyed every year and exotics treated as necessary.
- Continue habitat restoration by using heavy-duty shredding and mowing equipment to open up areas of overgrown wax myrtles. Continue appropriate management activities to enhance natural communities that have been hydrologically altered. Staff will contract mowing of approximately 3,000 acres per year.
- Work with the FWC to manage and enhance area wildlife.
- Continue and enhance the monitoring and evaluation of restoration activities on area vegetation and wildlife. Monitor all bald-eagle nests in Management Area annually.
- Provide resource protection through partnership with the FWC. Review enhanced patrol activities biweekly and review program annually.
- Protect sensitive cultural resources through cooperative law enforcement activities.
- Reduce non-native pest species populations and their associated impacts in the Management Area.
- Minimize ecological impacts associated with feral hogs located within the Management Area.
- Use mitigation programs to preserve, restore, enhance, and manage natural resources within the Management Area.
- Provide annual operational and capital improvement budgets sufficient for staff, equipment, and supply resources which are necessary to attain a level of responsible management as outlined in Management Area General Management Plan.

- Provide the staff necessary to successfully attain management goals and objectives as outlined in general management plans, activity plans, and annual work plans for the Management Area.
- Provide for and take advantage of volunteer and alternative work force opportunities within the Management Area.
- Provide the equipment, supplies, and tools necessary to successfully attain management objectives as outlined in the general management plan, activity plans, and annual work plans for the Management Area.
- Provide a long-term planning document that fulfills statutory, lease, and policy requirements and provides a framework for management implementation and public oversight.
- Plan management activities on an annual basis to meet program objectives detailed in the general management plan for the Management Area.
- Track and report progress in attaining management goals monthly, quarterly, and annually.
- Protect the natural and cultural resources within the Management Area through coordination with interested external entities.
- Improve management efficiency and effectiveness of the Management Area by entering into and/or maintaining long-term cooperative land management agreements with other land management entities.
- Improve management efficiency by cooperating with other management entities in as-needed, non-contractual arrangements.
- Coordinate land management activities in the Management Area with adjacent landowners.

Goal 2: Provide resource-based public use opportunities.

Objectives:

- Continue to provide environmentally compatible uses such as:
 - Fishing
 - Hunting
 - Camping
 - Hiking
 - Boating
 - Nature appreciation
- The public use program in the Management Area shall not require significant facility or infrastructure development (excluding the Lake Russell Environmental Center).
- Control types and levels of public use activities in the Management Area by the issuance of Special Use Licenses.
- Identify potential new access points for increased pedestrian and motorized vehicle access.
- Provide environmental education through maintenance and installation of kiosks at public access points, area brochures, and signage.

- Provide public outreach through the Public Use Guide, attending recreational user club meetings, and direct public contact.
- Maintain existing public-use improvements (roads, signs, entrances, and structures) using a combination of District maintenance, construction contracts, and user group involvement.
- Delineate boundaries of the Management Area.
- Safeguard the public, natural resources, and cultural resources located within the Management Area.
- The public use program in the Management Area shall be low impact, nondestructive to environmental and/or ecological characteristics of the area.
- Provide environmentally compatible opportunities for private concessions within the Management Area.

3. Introduction and Site History

In 1981, the Florida Legislature established the Save Our Rivers (SOR) Program for the five water management districts to acquire environmentally sensitive land. The legislation (373.59 F.S.) produced the Water Management Lands Trust Fund and empowered the water management districts to acquire lands needed to manage, protect, and conserve the state's water resources.

The District manages over 300,000 acres through the Land Stewardship Program. As steward of District natural areas, the LSP provides natural resource protection and management while allowing compatible recreational use. Management and use of land acquired by the District under SOR and Preservation 2000 must satisfy several requirements in Florida Statutes. The most significant of these is set forth in Section 373.59(4) (a) stating that money from the Water Management Lands Trust Fund should be used to acquire lands for water management, water supply, and the conservation and protection of water resources. Once lands are acquired, they are to be managed and maintained in an environmentally acceptable manner and in such a way as to restore and protect their natural state and condition. Districts may make certain capital improvements such as fencing, signs, fire lanes, access roads and trails, and provide minimum public accommodations such as primitive campsites, garbage receptacles, and toilets. In addition, habitat management such as control of exotic species, controlled burning, habitat inventory and restoration, and law enforcement may be conducted. All lands acquired under these provisions are to be used for general recreational purposes, unless such activities are incompatible with the purposes for which the land was acquired. The District is also encouraged to use volunteers and enter agreements with other governmental agencies to provide cost-effective land management.

The South Florida Water Management District's Land Stewardship Program is the primary management entity for Save Our Rivers natural areas in south Florida. The key emphasis in the Land Stewardship Save Our Rivers program revolves around water management, water supply, and the conservation and protection of water resources. Major considerations in the land acquisition process also include manageability of the area, surface and ground water

system health, and corridor formation for the critical interaction of wildlife populations.

The District began purchasing lands within the Lake Marion Creek Project Area and Upper Reedy Creek Project Area in 1994 through the SOR program. The majority of land was acquired from July 1994 to May 1997. The Management Area comprises approximately 7,607 acres located in eastern Polk and western Osceola counties.

The Management Area is located in eastern Polk and western Osceola Counties, and includes portions of Snell Creek, Horse Creek, Reedy Creek, and Lake Marion Creek basins. The project includes approximately 2,595 acres within the Southwest Florida Water Management District. Within this area is the 1,324-acre Horse Creek Scrub project, designated for acquisition under the Conservation and Recreation Lands program administered by the Florida Department of Environmental Protection.

The lands within the Management Area include valuable water resources and a diversity of habitats. These habitats support numerous species of fish and wildlife, and are home to several rare and endangered animals and plant species endemic to Florida (South Florida Water Management District 1992; Bridges and Reese 1996).

The LSP developed a burn program to reintroduce regular fire to the property including those portions where fire may have been suppressed. The District has initiated programs for exotic plant control, forest management, vegetation management, upland restoration, and a public use program.

4. Resource Inventory

<u>Policy 05.00113.6</u> Inventories of natural and historic resources shall be performed to provide information for effective land management planning, natural community maintenance, and ecological restoration.

Vegetation and vertebrate species are inventoried and natural communities are mapped by District staff or contracted specialists. Plant and wildlife lists are generated for each Management Area. Rare species lists are made available to land managers for planning purposes, however, information on specific rare species locations are restricted from the general public for the purpose of species protection. Archaeological and historic sites considered significant are subject to inventories by contracted archeologists. Inventory data is on file within the Planning Section of the LSP and non-sensitive data is available for review on the District's computer network server. LSP shares natural areas and species data with the Florida Natural Areas Inventory (FNAI) through a Memorandum of Understanding (MOU).

4.1 Hydrology

<u>Policy 05.00111</u> The basis for the LSP is the protection and management of natural hydrologic resources.

White (1970) divides the state of Florida into three major hydrogeologic divisions. The Management Area lies within the central zone defined by discontinuous highlands in the form of sub-parallel ridges and valleys. The major geomorphic feature that affects area hydrology is the Osceola Plain, a generally broad terrace bounded by the Lake Wales Ridge to the west and the Eastern Valley to the east, both of which are marine scarps. The Osceola Plain has locally little relief and generally has an elevation of 60 to 70 feet National Geodetic Vertical Datum NGVD. The Management Area is located in the western edge of the Osceola Plain, with the eastern edge of the Lake Wales Ridge to the west.

For management purposes, the Management Area includes two hydrologic basins: the Reedy Creek and Lake Hatchineha (Map 2). Intercession City Unit, Poinciana Unit, Reedy Creek Unit and the northern portion of the Lake Marion Creek WMA (the area within the Upper Reedy Creek Management Area) lie within the Reedy Creek basin. The remaining area of Lake Marion Creek WMA including the Torelli South Unit lie within the Lake Hatchineha basin. The Reedy Creek basin area is approximately 269 square miles and the Lake Hatchineha basin area is approximately 128 square miles.

Wetlands comprise approximately fifty percent of the Lake Marion Creek Management Area, and most are within the 100-year flood plain. The area is of critical importance to the recharge of the Floridan Aquifer because the deep sands of the Lake Wales Ridge allow water to infiltrate, rather than run off. Lake Marion serves as the headwaters for Lake Marion Creek, which combines with Snell and Horse Creeks to provide a constant supply of high quality water to Lake Hatchineha, which in turn discharges to Lake Kissimmee, the Kissimmee River and Lake Okeechobee. All three lakes are priority water bodies under South Florida Water Management District's Surface Water Improvement & Management Plan program (SFWMD 1997).

Three aquifer systems underlay the two management units: the Surficial, Intermediate and Floridan. The water table aquifer is contained within the Surficial Aquifer System (Powell 1991). The Intermediate Aquifer acts as a confining layer for the Floridan Aquifer, which supplies much of the water used in Polk County and is a source of both potable and non-potable water for a substantial portion of south Florida. The highly permeable Lake Wales Ridge has been identified as an area of high recharge, providing from 10 to 20 inches of groundwater recharge per year to the Floridan Aquifer (David 1992). The adjacent Osceola Floridan Aquifer to the east, provides base flows via springfed creeks to the headwaters of the Kissimmee River (South Florida Water Management District 1992).

Surface waters within or associated with the Lake Marion Creek Management Area include Lake Marion, Lake Marion Creek, Snell Creek and a portion of Horse Creek. According to Powell (1991), Lake Marion covers 3,456 acres at elevation 67.0 feet (National Geodetic Vertical Datum). It drains an area in excess of 22,500 acres and is fed by springs. It has the fourth best water quality of all public lakes in Polk County. Lake Marion Creek is the primary outlet for Lake Marion. It originates at the north end of the lake and flows north, east, and then southeasterly for about 10 miles to Lake Hatchineha. It has similar water quality to Lake Marion (Polk County 1989). Snell Creek originates

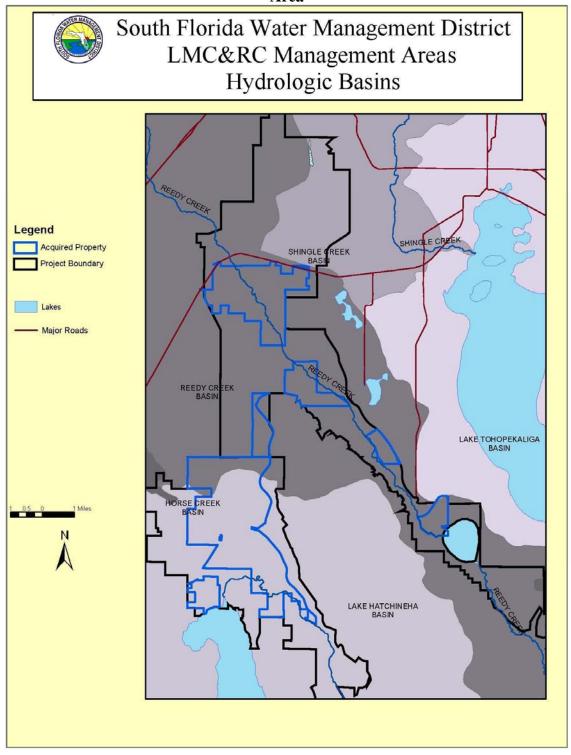
approximately 4.5 miles north of Lake Marion, near the edge of the Lake Wales Ridge, and meanders southeasterly for five miles before intersecting Lake Marion Creek about 0.5 miles downstream of the Lake Marion Creek Road Bridge. Its water quality is similar to Lake Marion Creek (Polk County 1989). Horse Creek forms in the Lake Wales Ridge approximately 10 miles northwest of Lake Marion. It flows into the Huckleberry Islands Swamp, east of Davenport and then discharges into Lake Marion Creek via Snell Creek. Its upper reaches are extensively channeled (SFWMD 1992).

Base flow in the creeks results from year round discharges from the Floridan Aquifer and are of critical importance in maintaining high quality flows to the headwaters of the Kissimmee River. During droughts, Floridan Aquifer discharge is usually the only visible flows in the creeks. Stormwater runoff is associated with high discharge events and constitutes that portion of rainfall that does not seep into the ground or evaporate. Base flow measurements by South Florida Water Management District staff on March 6, 1991, for Lake Marion Creek, Snell Creek and Horse Creek are listed in Table 1 below (SFWMD 1992).

Table 1: Base Flow Measurements

LOCATION	DISCHARGE (cfs)
Horse Creek at Horse Creek Road	7.47
Lake Marion Creek at Lake Marion Creek Rd.	17.87
Snell Creek at County Road 580	15.60
TOTAL	40.94

Map 2: Hydrologic Basins of the Lake Marion Creek/Reedy Creek Management Area



4.2 Soils

Soil morphology within the Management Area is primarily a function of topographic variation (relative to hydrology) and vegetation. This relationship between relative topography, hydrology, and soil morphology allows categorization of soils into different positions within the landscape (SFWMD & USDA 1999) (Map 3).

Soils within the Management Area fall into seven distinct categories defined by the Natural Soil Landscape Positions (NSLP) system:

- Flats Soils
- Flatwood Soils
- Knolls
- Central Ridge and Dunes
- Muck Depression Soils
- Sand Depression Soils
- Water

The NSLP contains 909 map units from 16 counties within the SFWMD. This system was developed cooperatively between the District and the Natural Resources Conservation Service. The NSLP grouped South Florida soils into 12 categories based on hydrology, soil morphology, topography, and vegetation. Soil classification descriptions, vegetation associations, soils classification map and data files of NSLP can be accessed on the Internet at: http://www.sfwmd.gov/org/pld/proj/wetcons/nslp/nslp_data.htm.

Detailed soil maps for Osceola and Polk Counties (which contain the Management Area) divide the NSLP soil classifications further into specific categories (USDA 1990; USDA no date). These soil survey books and maps are on file at the District's Orlando Service Center.

Flats Soils

Flats soils (previously referred to as slough) are poorly drained hydric soils with sandy marine sediments throughout the profile, or more rarely with loamy sand or sandy loam. Some areas within this unit are frequently flooded alluvial areas that have a sandy surface for the majority of the area. Flats are located between the flatwood and depressional landscapes, and are generally regarded as transition areas. The seasonal high water table can range from the soil surface to one foot below the surface for four to ten months annually. In most years, the seasonal high water table begins in June and ends from September to March (typically by February). Some areas may be inundated for less than a few weeks by large storm events. Examples of these soils include Boca, Felda, and Riviera. Wet-dry prairies dominated by grasses are typical to this landscape position.

One of the ecological communities most typical of the flats landscape is the slough. Slough soils are nearly level and very poorly drained with organic surfaces underlain by sand. Representative soils include Hontoon, Sanibel and Okeelanta. Most sloughs serve as drainage ways for water during periods of heavy and prolonged rainfall. Surface water may move over this area for up to a few weeks during the rainy season. Most sloughs are

relatively long and narrow and slightly lower in elevation than the surrounding flatwoods and hammocks. Vegetation within the slough may be open expanse of grasses, sedges and rushes with scattered pines and cypress in an area where the surface soil is saturated during the wet season. Grasses are the most common plant found in sloughs. Other plants that characterize this community are pickerelweed, sundew, milkwort (*Polygala sp.*), beak rushes, blue maidencane (*Amphicarpum muhlenbergianum*), and sloughgrass (*Scleria sp.*).

Flatwood Soils

Flatwood soils are poorly drained non-hydric, upland soils with sandy marine sediments throughout the profile. Most of the soil series have a subsurface spodic horizon, some of which may have loamy sand substrates. The seasonal high water table can range from 6 to 18 inches below the soil surface for three to six months annually. Some areas may become inundated for less than a couple of weeks during large storm events. Examples of these soils include Immokalee, Malabar, and Wabasso. The soils affect plant-water relationships and cause differences in plant composition. Natural communities typical of flatwood soils are dry prairie, mesic flatwoods, and scrubby flatwoods. Typical flatwood soil vegetation includes pine trees with an understory of saw palmetto. Other common plants are live oak, shiny blueberry, gallberry, tarflower, wax myrtle, chalky bluestem (Andropogon viginicus glaucopsis), and wiregrass.

Knolls

Knoll soils are non-hydric, upland soils with sandy marine sediments throughout the profile. These soils typically have no unique diagnostic horizons within the soil profile and are well to somewhat poorly drained. The seasonal high water table can range from one and a half to six feet below the soil surface for four to seven months annually. Examples of these soils include Archbold, Canaveral, and Pomello.

One ecological community that is typical to the knolls landscape is sand pine scrub. Natural vegetation may typically be even-aged sand pine trees with a dense under-story of oaks, saw palmetto, and other shrubs. Ground cover under the trees and shrubs is scattered. Large areas of light colored sand are often noticeable. Satellite soils, which have a high water table for part of the year, support scrubby growth. Myrtle oak, Chapman's oak, and sand pine become infrequent and gallberry becomes prominent. Plants that characterize this community are: Chapman's oak, myrtle oak, sand live oak, sand pine, prickly pear (*Opuntia sp.*), and panicum (*Dichanthelium sp.*).

Central Ridge and Dunes

Central Ridge and Dune landscapes are well drained, non-hydric, high upland soils with sandy marine sediment throughout the profile. These soils are typically populated with xeric species. The water table is more than six feet below the soil surface throughout the year. Common soils of this landscape position include Chandler, Palm Beach, Paola, and St. Lucie. One ecological community that is typical of this landscape position is the South Florida Coastal Strand. Another community that may be found on this landscape position is Sand Pine Scrub.

Muck Depression Soils

Muck depression soils are very poorly drained hydric soils that have an organic surface layer underlain by sandy marine sediments. These areas are often depressions adjacent to flats and flatwood landscapes. The seasonal high water table can range from six inches below to two feet above the soil surface for up to 11 months annually. In most years, the seasonal high water table begins in June and ends between December and April (typically in April). Examples of these soils include Gator, Hontoon, and Sanibel. Some areas within this unit are frequently flooded alluvial areas that have muck surface. These frequently flooded map units are known to have surface flooding at least one out of every two years. A few areas may have a thin organic surface layer less than a few inches thick.

Ecological communities often found in this landscape are basin swamp, dome swamp, strand swamp or floodplain swamp. Typically occurring along rivers, lake margins, slough and strands, these communities may be interspersed throughout other communities such as flats and flatwoods. Water is at or above ground level a good portion of the year. Tree species diversity is low in cypress domes, but increases in cypress strands and along stream margins. Plants which characterize this community are: bald cypress (*Taxodium disticum*), pond cypress, coastal plain willow, red maple, buttonbush, wax myrtle, cinnamon fern, royal fern (*Osmunda regalis*), Spanish moss, giant wild pine (*Tillandsia utriculata*), and maidencane. Some of the protected plants that may be found in these communities include the climbing dayflower (*Commelina gigas*), fuzzy wuzzy airplant (*Tillandsia pruinosa*), giant water dropwort (*Oxypolis greenmanii*), hidden orchid (*Maxillaris crassifolia*), nodding catopsis (*Catopsis nutans*), and grass of Parnassus (*Parnassia graniflora*).

This soil classification is the largest represented in the MANAGEMENT AREA.

Sand Depression Soils

Sand depression soils are very poorly drained hydric soils that typically have sandy marine sediments throughout the profile. A few areas may have mucky sand, loamy sand, or sandy loam surfaces with sandy or loamy subsurfaces. Often, these areas are depressions adjacent to flats and flatwood landscapes. The seasonal high water table can range from one foot below to two feet above the soil surface for seven to ten months annually. In most years, the seasonal high water table begins in June and ends from October to March (typically in March). Some areas within this unit are frequently flooded alluvial areas that have a sandy surface for the majority of the area. Soils commonly associated with this community are nearly level and very poorly drained with organic surfaces underlain by sand. Flooding at least one out of every two years. Examples of Sand Depression soils include Basinger, Boca, Chobee, Felda, and Riviera.

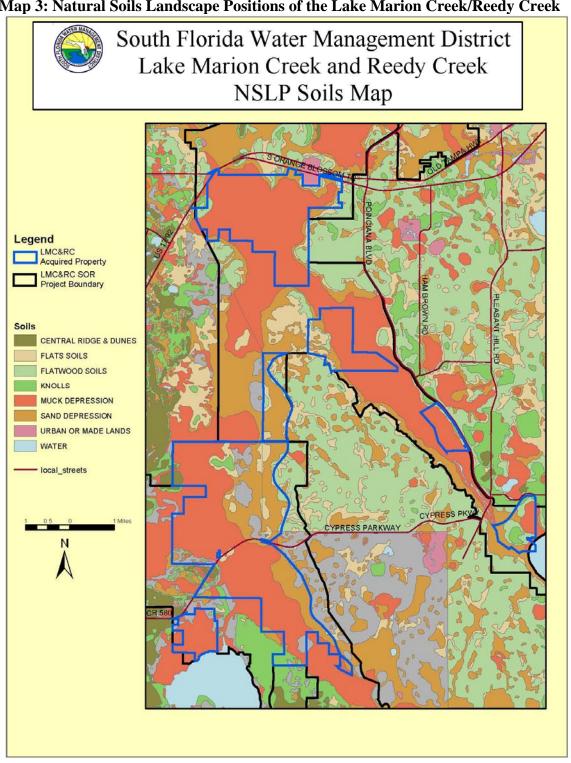
Natural communities often found in this landscape are the freshwater marsh and ponds. Vegetation varies widely within marshes, and may be composed of: flag, sawgrass, arrowhead, and other non-grass herbs marsh, cattail, spike-rush, bulrush, and maidencane marsh.

Water (open)

Water areas are permanently inundated, usually to a depth of two feet or greater. This includes freshwater, saltwater, natural and excavated sites.

One small area within the Intercession City Unit contains this soil classification.

Map 3: Natural Soils Landscape Positions of the Lake Marion Creek/Reedy Creek



4.3 Natural Communities

The Lake Marion Creek/Reedy Creek Management Area is characterized by a rich diversity of plant species and habitat types including hardwood swamps, pine flatwoods, cypress swamps, oak hammocks, marshes and ponds, and scrub. Large areas within the Lake Marion Creek/Reedy Creek Management Area have been designated as Strategic Habitat Conservation Areas (Cox *et al.* 1994). Strategic Habitat Conservation Areas represent areas important to flora, fauna and natural communities based on known occurrence information and recent land use/land cover maps.

Fifteen natural community types, as classified by the Florida Natural Areas Inventory (FNAI), are present in the MANAGEMENT AREA management units. Habitat condition varies widely depending on current management activities and exotic plant infestation. Wetlands are identified for the MANAGEMENT AREA in the National Wetlands Inventory Map produced by the U.S. Fish and Wildlife Service. The natural communities for each management unit are shown in Maps 4 - 9. A summary of natural community types found in the KCOL management units are shown in Table 2.

Plant inventories were completed by District staff, contractors, Polk County, and the Audubon Society within the MANAGEMENT AREA. Plant inventories have not been completed for Torelli South Unit.

Table 2: Ecological Community Type Summary by Management Unit

X = documented

FNAI Community	Lake Marion	Intercession City	Poinciana Unit	Reedy Creek Unit	Lake Russell Unit
Type	Creek WMA	Unit			
Basin Marsh	X				
Basin Swamp	X	X	X	X	X
Blackwater Stream	X				
Depression Marsh	X		X		
Dome Swamp	X	X	X		X
Floodplain Forest	X				
Hydric Hammock	X	X	X	X	X
Mesic Flatwoods	X	X	X	X	X
Prairie Hammock					X
Sandhill					X
Scrub	X				X
Scrubby Flatwood	X				X
Seepage Slope	X	X			X
Upland Mixed Forest	X	X			
Wet Flatwoods	X	X	X	X	X
Wet Prairie	X				
Xeric Hammock	X				

The total acres and a brief description of each natural community type within the MANAGEMENT AREA is descriped below:

Basin Wetlands

Basin Marsh (115 acres)

Basin marshes are herbaceous or shrubby wetlands situated in relatively large and irregular shaped basins. Basin marshes are associated with and often grade into Wet Prairie or Lake Communities (FNAI 1990). This community is typified by marsh openings within basin swamps, or extensive marshes occupying large, shallow basin landscape positions (Bridges and Reese 1996). Common species identified are panicum (Panicum sp.), cutgrass (Leersia sp.), pennywort (Hydrocotyle sp.), Spanish needle (Bidens bipinnata), soft rush (Juncus sp.), arrowhead (Saggittaria sp.), elderberry (Sambucus canbadensis), spikerush (Eleocharis sp.), buttonbush (Cephalanthus occidentalis), and dog fennel (Eupatorium compositifolium).

Basin Swamp (5,437 acres)

Basin swamp is generally characterized as a relatively large and irregularly shaped basin that is not associated with rivers, but is vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod (FNAI 1990). Dominant trees include cypress (*Taxodium sp.*), Swamp black gum (*Nyssa sylvatica var. biflora*), and Florida slash pine (*Pinus elliottii var. densa*). Other typical plants include red maple (*Acer rubrum*), swamp bay (*Persea palustris*), sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasia*nthus), fetterbush (*Lyonia lucidi*), wax myrtle (*Myrica cerifera*), and buttonbush.

<u>Depression Marsh</u> (53 acres)

Depression marsh is characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation often in concentric bands (FNAI 1990). Typical plants include St. John's wort (Hypericum sp.), yellow-eyed grass (Xyris sp.), chain fern (Woodwardia sp.), primrose willow (Ludwigia peruviana), maidencane (Panicum hemitomum), wax myrtle, buttonbush, pickerelweed (Pontederia cordata), and bladderwort (Utricularia sp.).

Dome Swamp (120 acres)

Dome swamps are characterized as shallow, forested, usually circular depressions that generally present a domed profile because smaller trees grow in the shallower waters at the outer edge, while larger trees grow in the deeper water in the interior. Pond cypress (*Taxodium ascendens*) and slash pine (in transition areas) are common trees. Other typical plants include red maple, dahoon holly (*Ilex cassine*), swamp bay, sweetbay, loblolly bay, virginia willow, fetterbush, chain fern (*Woodwardia virginiana*), netted chain fern (*Woodwardia areolata*), poison ivy (*Toxicodendron radicans*), Spanish moss (*Tillandsia usneoides*), wild pine (*Tillandsia sp.*), royal fern (*Osmunda regalis*), cinnamon fern (*Osmunda cinnamomea*), maidencane, wax myrtle, St. John's wort, floating heart (*Nymphoides aquatica*), buttonbush, and alligator flag (*Thalia geniculata*).

Mesic Uplands

Upland Mixed Forest (144 acres)

This community is is characterized as well-developed, closed-canopy forests of upland hardwoods on rolling hills. Upland Mixed Forest is found on sandy-clays or clayey sands with substantial organic and often calcareous components. The topography and clayey

soils increase surface water runoff, although this is counterbalanced by the moisture retention properties of clays and by the often thick layer of leaf mulch. This community is the climax community for their geographic locations. Southern magnolia, hickory, sweetgum, Florida maple, loblolly pine, and live oak are typical plants found in this community.

Mesic Flatlands

Mesic Flatwoods (595 acres)

Mesic Flatwoods are characterized as an open canopy forest of widely spaced pine trees with little or no understory but a dense ground cover of herbs and shrubs. Mesic flatwoods are found on poorly drained, but rarely if ever inundated soils. They occupy extensive flat inter-drainageway plains in central Florida. Several variations of mesic flatwoods are recognized, the most common in the Management Area being and slash pine-gallberry-saw palmetto.

Scrubby Flatwoods (92 acres)

Scrubby flatwoods are characterized as an open canopy forest of widely scattered pine trees with a sparse shrubby understory and numerous areas of barren white sand (FNAI 1990). This community occurs on sites slightly higher in elevation than mesic flatwoods, but lower than scrub. Soils are well drained and dry, even during maximum rainfall events. Unlike scrub, the water table is relatively close to the soil surface. As with typical scrubby flatwoods, Drasdo and Lightsey Units harbor species common to both scrub and mesic flatwoods. Typical species include slash pine, saw palmetto, myrtle oak, sand live oak, fetterbush, goldenrod (*solidago sp.*), and wiregrass. Due to floristic and geographic similarities, some ecologists speculate that this community is merely a form of mesic flatwoods where fire has been excluded. This theory is based on the natural occurrence of hardwood (oak) invasion without sufficient fire frequency patterns. In addition, scrubby flatwoods provide habitat for the gopher tortoise—a species of special concern) and the Florida scrub jay (*Aphelocoma coerulescens*) –a threatened species (FWC 1997).

Prairie Hammock (58 acres)

Prairie hammock is characterized as a clump of tall cabbage palms and live oaks in the midst of prairie or marsh communities (FNAI 1990). Prairie hammocks establish on elevated soils surrounded by lower topography. These islands are generally sandy marl flooding only for a short duration during the highest water levels.

Canopy species include live oak (Quercus virginiana) and cabbage palm, with occasional laurel oak (Quercus laurifolia) in lower elevations. An abundance of epiphytes, including listed species, are found in mature canopy trees. As in most prairie hammocks, there is a sparse under-story due to over-story shading, but cover is also reduced by cattle grazing and trampling of shrub and ground layer vegetation. Many species common to undisturbed hammocks are sparse or lacking, replaced by disturbance species such as broomweed (Sida sp.), tropical soda apple (*Solanum viarum*) and caesarweed (Urena lobata). Typical under-story plants of pristine prairie hammocks include wax myrtle, water oak, beautyberry (Callicarpa americana), and saw palmetto.

Wet Flatlands

Hydric Hammock (2,206 acres)

Hydric hammock is characterized as a well-developed hardwood and cabbage palm forest with a variable understory often dominated by palms and ferns. Typical plants include cabbage palm (*Sabal palmetto*), red maple, swamp bay, sweetbay, water oak (*Quercus nigra*), wax myrtle, saw palmetto, poison ivy, dahoon holly, royal fern, pepper vine (*Ampleopsis arborea*), and virginia creeper (*Parthenocissus quinque*).

Wet Flatwoods (896 acres)

Wet flatwoods are characterized as relatively open-canopy forests of scattered pine trees or cabbage palms with either a thick shrubby under-story and very sparse ground cover, or a sparse understory and a dense ground cover of hydrophytic herbs and shrubs, with variations between these extremes (FNAI 1990). Native ground cover species are frequently displaced by non-native Bahia.

Wet Prairie (5 acres)

Wet prairie is characterized as a treeless plain with a sparse to dense ground cover of grasses and herbs, including wiregrass, maidencane, spikerush (*Eleocharis sp.*), and *beakrush* (*Rhynchospora sp.*). Other typical plants include tickseed (*Bidens sp.*), wax myrtle, St. John's-wort (*Hypericum sp.*), and Panicums (FNAI 1990).

Xeric Uplands

Scrub (235 acres)

Scrub occurs in many forms, but is often characterized as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs dominating the understory (FNAI 1990). Typical plants include sand live oak, myrtle oak (*Quercus myrtifolia*), scrub oak (*Quercus inopina*), saw palmetto, fetterbush, and wiregrass. Highest elevations in the Management Area support this community.

Scrub is being lost at an alarming rate throughout the state, as high elevations and fast drainage make this community highly desirable for development. This association occurs almost exclusively in Florida. State ranking of scrub is "S2," imperiled in the state because of its rarity and vulnerability (FNAI 1990).

Xeric Hammock (18 acres)

Xeric Hammock is characterized as either a scrubby, dense, low canopy forest with little understories other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy. Several gradations between these extremes exist. Typical plants include live oak (*Quercus virginiana*), sand live oak (*Quercus geminate*), laurel oak (*Quercus laurifolia*), and saw palmetto. (FNAI 1990)

Seepage Wetlands

Seepage Slope (163 acres)

Seepage slopes are wetlands characterized as shrub thickets on or at the base of a slope where moisture is maintained by downslope seepage such that the ground is usually saturated but rarely inundated. They generally occur where water percolating down through the sand hits an impermeable layer, such as clay or rock. Typical plants include pond pine, wax myrtle, wiregrass, bluestem, longleaf pine, and slash pine. Seepage slope soils are acidic, loamy sands with low nutrient availability that are constantly saturated by seepage except during droughts. They are rarely inundated, although small pools and rivulets are common.

Floodplain Wetlands

Floodplain Forest (179 acres)

Floodplain forests are hardwood forests that occur on drier soils at slight elevations within floodplains, such as on levees, ridges and terraces, and are usually flooded for a portion of the growing season. The dominant trees are sweetgum, red maple, silver maple, sweetbay magnolia, and poison ivy.

Soils of floodplain forests are variable mistures of sand, organics, and alluvials. Hydroperiod is the primary physical feature of floodplain forests, which are inundated by flood waters nearly every year for up to 50% of the growing season. Floodplain forests usually do not have standing water in the dry season.

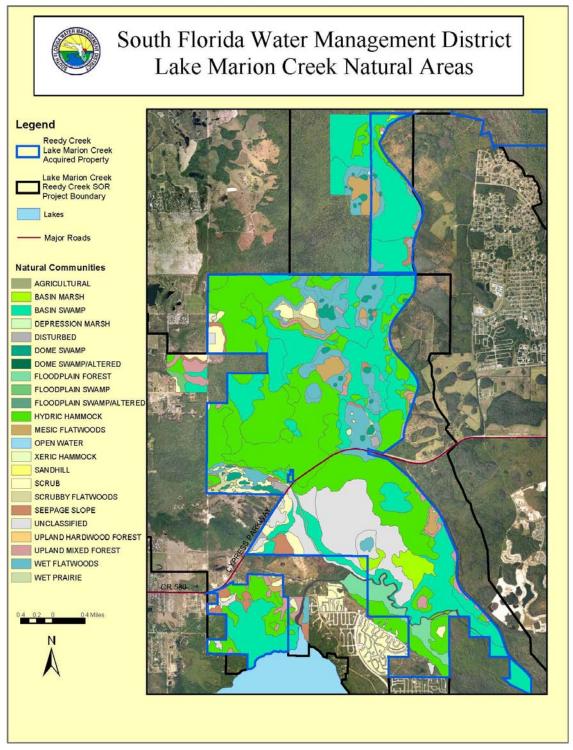
Riverine

Blackwater Stream (53 acres)

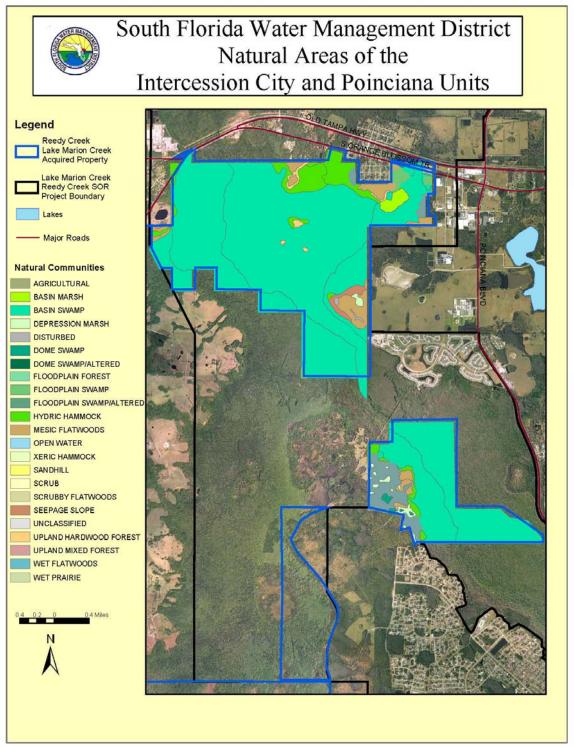
Blackwater streams are characterized as perennial or intermittent seasonal watercourses originating deep in sandy lowlands where extensive wetlands with organic soils function as reservoirs, collecting rainfall and discharging it slowly to the stream. The tea-colored waters are laden with tannins, particulates, and dissolved organic matter and iron translocated by drainage through swamps and marshes. Typical plants include sedges, grasses, smartweed, and golden club.

Blackwater streams have sandy bottoms overlain by organics and frequently underlain by limestone. Limestone outcrops may occur. These streams typically have high, steep banks alternating with floodpain swamps.

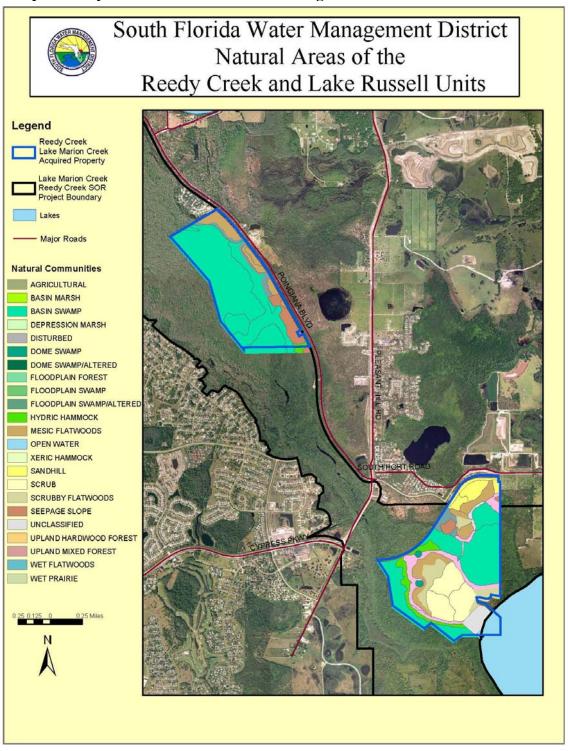
Map 4: Lake Marion Creek Management Area Natural Communities



Map 5: Intercession City and Poincianna Management Units Natural Communities



Map 6: Reedy Creek and Lake Russell Management Units Natural Communities



4.4 Wildlife

Inventories have documented 343 animal species within the Management Area. (Appendices G, H, I and J). Wildlife species observed utilizing the property include 215 bird, 46 mammal, 58 reptile, and 24 amphibian species. At least 35 species considered rare, endangered, threatened, or of special concern have been noted. Further documentation of mammals, amphibian, reptiles, and fishes are needed at Intercession City Unit, Poinciana Unit, and Reedy Creek Unit.

4.5 Cultural Resources

<u>Policy 05.00113.10</u> Archaeological and historic resources are protected by site identification and inter-agency coordination with the Florida Department of Historical Resources (FDHR). Land management planning shall include an analysis of archaeological data accompanied by appropriate public education opportunities.

As a state agency responsible for management of publicly owned lands, the District is required by law to preserve historical and cultural resources located on District properties. The District's management goal is historic preservation by identification, evaluation, documentation, protection, and stabilization of known historic or prehistoric sites. Under Chapter 267, F.S., each state agency of the executive branch is under obligation to consider the effect of management actions on historical resources. This statute, along with Rule 1A-32 (research permitting process), Rule 1A-46 (archaeological report standards), and Chapter 872, F.S. (protection of gravesites) are the primary laws pertaining to historic sites and archaeological resources. The District complies with these regulations by inter-agency coordination with the FDHR through their project review process (Rule 1A-46, archaeological report standards). LSP maintains a database of all known archeological and historical sites on District properties that is periodically updated through the FDHR Site File. Due to its sensitive nature, site-specific data will not be made available to the general public.

In 1997 the FDHR conducted a search of the Florida Master Site File for archaeological and historical sites known to exist in the Lake Marion Creek/Reedy Creek Management Area. Eleven such sites existed. In 2003 another site was located and placed on file with the FDHR. However, FDHR personnel emphasized that because the Lake Marion Creek area has not been completely surveyed, it may contain unrecorded archaeological sites or historical structures. The listing of these archaeological sites does not indicate whether any of the sites are significant. Further research will consequently be required to determine if there are sensitive historical and/or cultural resources, which need protection within the Management Area.

5. Natural Resource Management

<u>Policy 05.0011.</u> The LSP mission is to provide natural resource management and protection while allowing appropriate recreational use on designated public lands.

Natural resource management responsibilities of the District are defined by statute and District land stewardship policy. Many properties owned and managed by the District contain natural communities whose structure and function have been altered by previous land uses. The District manages and maintains these lands in an environmentally acceptable manner and, to the extent practicable, restores them to a more natural state and condition. Land managers attempt to accomplish this by using a variety of management techniques.

To manage natural communities at the Management Area, LSP will include the application of vegetation control activities to restore the natural forest structure and composition, the continuation of an aggressive exotic plant control program, the application of a prescribed burn program to appropriate landscapes, and coordination with FWC to implement a wildlife management program.

5.1 Restoration

<u>Policy 05.00111</u>. The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources.

<u>Policy 05.00111.3</u>. Where feasible, an attempt shall be made to restore a more natural hydroperiod on tracts where the drainage patterns have been altered.

The District's Preliminary Environmental Assessment in 1991 determined that the floodplain of Lake Marion Creek was in a relatively natural state, requiring little, if any, immediate restoration measures. It identified limited restoration opportunities in areas such as the scrub communities, where logging and land clearing operations had removed much of the overstory (SFWMD 1992).

Past logging has removed the pine cover from most of the flatwoods on the property. Additional areas were found to be unnaturally dominated by slash pine as a result of long-term fire suppression. In order to restore longleaf pine to these systems, active reintroduction of longleaf pine would be essential. Areas should be selected where experimental seeding of longleaf pine could be attempted. If the seeding were to be effective, shrub competition would also need to be controlled, which may be difficult in the long-unburned sites. Bridges and Reese (1996) thought it may be necessary to resort to direct planting of longleaf pine seedlings, and monitoring of their success, in order to obtain sufficient numbers of longleaf pine for self-perpetuation.

In particular, a high priority management prescription for the Snell Creek Management Unit scrub would be the planting of scattered longleaf pine. In 1996 this tree was found in densities lower than what would be expected for a natural area (Bridges and Reese

1996). Also, the mid-successional shrub and red maple swamps in the Huckleberry Islands-South Management Unit, east of Lake Marion Creek, would benefit from fire to restore areas to a herbaceous dominated basin marsh. This condition was present at the sites as recently as the 1950s, based on interpretation of historical aerial photographs (Bridges and Reese 1996).

5.1.1 Mitigation

A significant source of additional funding for acquisition and management purposes is off-site mitigation projects and mitigation banking. Pursuant to Chapter 373.4135, F.S., the District is encouraged to develop mitigation banks. Land managers evaluate opportunities to implement mitigation banks in areas where the:

- restoration is complex
- District Mitigation Banking Program's site selection criteria are utilized
- Site features and restoration plan are consistent with the guidelines established in the Joint State and Federal Mitigation Bank Review Team Process for Florida.

LSP, in cooperation with the District Regulation Department, may designate priority enhancement or restoration areas in large, degraded wetland complexes. Potential enhancement/restoration areas include either public or private lands within the Save Our Rivers Land Acquisition and Management Plan (SFWMD 1999), or lands that have resource value and may be added to the plan in the future. Possible enhancement/restoration sites must have the potential to provide sustainable wetland functions after ecological restoration. As part of the GMP for each Management Area, Land Stewardship managers shall identify significant any enhancement/restoration areas in their region and develop a conceptual cost estimate to implement the work. This information shall be provided to the mitigation program coordinator who evaluates opportunities for enhancement/restoration. These opportunities may include designation as a mitigation bank, a District-sponsored regional offsite mitigation area, or a priority project.

Mitigation bankers acquire property which has inherent restoration potential. They are then responsible for creating and implementing restoration and management plans for the property. After the mitigation credits for the bank are sold and the planned restoration has achieved its success criteria, the lands may be turned over to the District for perpetual management. Funding for the perpetual management is included with the mitigation bank permit that transferred to the District with the title to the land. The American Equities mitigation bank that falls within the Lake Marion Creek Project Area boundary totals 3,572 acres.

The American Equities' Bank submitted a permit request to the South Florida Water Management District in January 1997 and was approved by the Governing Board in February 1997 (File No. 492924779). Restoration activities began on-site in the spring of 1997 and are expected to be completed in five to ten years, when the bank may come to the District for long term management.

5.1.2 Monitoring

<u>Policy 05.00113.6b.</u> Monitoring shall be conducted to identify landscape changes resulting from management activities.

LSP has developed a monitoring program to evaluate success of management actions on SOR properties. Tracking environmental response to prescribed fire, hydrologic restoration, and exotic vegetation control provides valuable information on premanagement condition and progress toward land management objectives. Information obtained by monitoring specific sites assists land managers in making sound ecological choices for each unique parcel.

Ecological monitoring on LSP-managed properties is conducted or coordinated by the LSP monitoring coordinator. Monitoring projects and a database of plant and animal resources that occur on Management Areas are kept on file at District headquarters. Research activities conducted by the LSP produce practical information directly applicable to land management operations on SOR properties. Land managers assess research needs with the assistance of the LSP monitoring coordinator as they become evident during the progress of land management. A data file of all research projects occurring within SOR boundaries is maintained. LSP research studies are subject to peer review and, when appropriate, made available through publication or distribution on the District computer network server.

The Kissimmee River Restoration Project (KRRP) developed a monitoring program for the Lower Kissimmee River that is integrated with river restoration research objectives. Integration of this monitoring program with monitoring efforts for the Management Area is essential for the development of a long-term, coordinated management evaluation program. The Kissimmee River Restoration Evaluation Program (KKREP) is designed to collect, manage, evaluate, and disseminate information related to activities, observations, and measurements associated with restoration of the Kissimmee River/floodplain ecosystem. Program components are designed to track initial and long-term responses to the reconstruction of the ecosystem by evaluating a suite of indicators representing physical, chemical, biological, and functional components of the system. Components evaluated include birds, endangered species, fish, herpetofauna, hydrogeomorphology, hydrology, invertebrates, vegetation, and water quality. The KRRP is also developing a database to store sample data for public use.

Land management activities monitored within the Management Area include prescribed burning, vegetation management, and exotic plant removal.

5.2 Vegetation Management

<u>Policy 05.00112.4</u>. Where practicable, an attempt shall be made to restore and maintain desirable vegetation to promote habitat diversity in areas where exotic/invasive vegetation or improved land uses have substantially altered the historic landscape.

<u>Policy 05.00113.12</u>. Mechanical equipment may be used in conjunction with prescribed burning and other management tools to control vegetation and restore habitat structure.

Vegetation management within the Management Area consists of exotic and invasive plant removal, prescribed burning, and forest management. Land managers use prescribed fire, mowing, chopping, chemical application, and tree harvesting as management tools to reduce fuels, promote fire-dependent plants, reduce exotic and nuisance infestations, stimulate herbaceous species growth, and improve habitat for wildlife and rare plant species. Hydrologic enhancement is employed in areas previously drained for agricultural use with many of the same benefits.

5.2.1 Exotic/Invasive Vegetation

<u>Policy 05.001122.3</u>. Management practices will strive to identify existing infestations of exotic/invasive plants and implement appropriate control or eradication measures.

<u>Policy 05.00113.2.</u> Exotic plant control in all Management Areas shall attain a level of success where periodic maintenance eliminates the infestation or reduces the spread of exotic plants.

LSP targets non-native plant species and those designated as Category I and II on the Florida Exotic Pest Plant Council's (EPPC) biennially updated list. Category I species include alien plants that invade and disrupt Florida native plant communities. This designation is without regard to economic severity or geographic extent of the problem. Category II exotics have the potential to invade and disrupt natural successional processes. They are similar in geographic origin and ecology as Category I species, have a tendency to form large vegetative colonies and/or are sporadic, and persistent in their occurrence.

LSP's invasive exotic plant control measures include combinations of herbicide application, prescribed fire, roller chopping, and mowing. Selection of control measures is dependent upon species type, environmental factors and natural communities impacted. Treatments are coordinated with the LSP Exotic Plant Control Coordinator and performed by regional land managers, the Land Stewardship field crew, lead management agency, or private contractors. The LSP works in cooperation with the District's Vegetation Management Division to coordinate eradication of noxious exotics, and assist with exotic control research efforts whenever possible.

Plant inventories have documented 14 exotic species within the Management Area with those denoted with an "*" not on the EPPC list (see Appendix D for a complete plant list):

- Alligator Weed (*Alternanthera philoxeriodes*)
- Sour Orange (Citrus aurantium)*
- Water Hyacinth (Eichhornia crassipes)
- Hydrilla (*Hydrilla verticillata*)
- Cogon Grass (*Imperata brasiliensis*)
- Pineland Elder (Iva microcephala)*
- Chinaberry *Melia azedarach*)

Lake Marion Creek/Reedy Creek Management Area General Management Plan 2005 - 2010 South Florida Water Management District, Land Stewardship Division

- Torpedo Grass (Panicum repens)
- Sour Paspalum *Paspalum conjugatum*)*
- Bahia Grass (Paspalum notatum)*
- Watter Lettuce (*Pistia stratiotes*)
- Indian Cupscale Grass (Sacciolepis indica)*
- Caesar Weed (*Urena lobata*)
- Paragrass (*Urochloa mutica*)

Exotic plant management within the area consists of follow up treatments to maintain minimum population levels or further reduce populations of exotic and nuisance native plants. The follow-up treatments may be conducted on an annual basis by District contractors, on an as-needed basis by grazing lessees, or directly by District staff.

Management Objective

• Reduce the presence, spread and associated negative effects of exotic and invasive plant species located within the Management Areas.

Management Actions

 Perform mechanical and chemical treatment for known exotic and invasive species that include Lygodium, Brazilian Pepper, air potato, and Chinese tallow within the Management Areas.

5.2.2 Rare, Threatened, and Endangered Species

<u>Policy 05.00112.2.</u> Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

Listed species are those plants and animals considered rare within a specific geographic area by the US Fish and Wildlife Service (USFWS), FWC, or FNAI. A list of these species is annually updated and published by the FWC. The LSP promotes the perpetuation of listed plant species by utilizing best management practices in natural communities to which they are endemic. The establishment of appropriate fire and hydrologic regimes, and the control of invasive plants provide opportunity for rare species to perpetuate or re-establish in former natural ranges. Public Use Rules aid in the protection of native habitat and specifically prohibit the destroying, defacing or removing any natural feature or native plant on SOR lands (40E-7.537, F.A.C.). In this manner, listed plants are given lawful protection and environmental conditions suitable for their continued existence.

Search of the floral species list in Appenidix D identified fourteen floral species as a listed threatened or endangered species within the Lake Marion Creek/Reedy Creek Management Area. A detailed study of the Torelli South, Intercession City, Poinciana, and Reedy Creek management units has not been conducted. Table 3 lists the listed floral species.

Table 3: Listed State Floral Species

(LE) - Listed Endangered (LT) - Listed Threatened

Common Name	Scientific Name	State Listing
Chapman's sedge	Carex chapmannii	LE
Scrub Mint	Dicerandra frutescens	LE
	Eriogonum longifolium var.	
Scrub Buckwheat	gnaphalifolium	LE
Star ainse	Illicium parviflorum	LE
Pine pinweed	Lechea divaricata	LE
Celestial lily	Nemastylis floridana	LE
Britton's beargrass	Nolina brittoniana	LT
Paper-like nailwort	Paronychia chartacea	LE
Plume polypody	Pecluma plumula	LE
Swamp plume polypody	Pecluma ptilodon var. caespitosa	LE
Lewton's polygala	Polygala lewtonii	LE
Scrub plum	Prunus geniculata	LE
Giant orchid	Pteroglossaspis ecristata	LT
Florida willow	Salix floridana	LE

Management Objective

• Protect and perpetuate listed plant species withing the Management Area.

Mangement Actions

- Regional land managers and the inventory coordinator shall coordinate with contracted specialists to ensure that all areas within the Lake Marion Creek & Reedy Creek Management Areas have been surveyed for listed plant species.
- Regional land managers, inventory coordinator, monitoring coordinator, and law enforcement officers shall make in-field identification of sites where listed plant species are present.
- Regional land managers shall ensure that listed plant species locations are protected from vandalism or inappropriate management activities.
- Regional land managers shall identify and implement activities that perpetuate listed plant species identified within the Management Area.

5.2.3 Forest Resources

<u>Policy 05.00113.8</u>. Sustainable use of forest resources shall be conducted where these activities adhere to a series of environmental criteria that meet LSP goals. Timber contractors will be required to meet silvicultural Best Management Practices (BMP) developed for Florida forests.

<u>Policy 05.00113.6c</u>. Timber sales will be conducted to improve forest health or support specific forest management goals.

Since SOR properties are designated multiple-use, forest management is considered an appropriate future management option. In 1997 the LSP contracted the expertise of Natural Resource Planning Services, Inc. to provide site evaluations and

management/harvest recommendations for existing stands. The subsequent SOR Forest Management Plan (David 1998) identified lands currently managed by the LSP that contain sustainable forest resources capable of generating short term revenues to supplement land management costs. Based on the strict set of environmental criteria outlined below, no sites within the Management Area were identified as potential future limited timber harvest sites.

Lands that qualified for forest management met the following environmental criteria:

- The area is currently in an improved or disturbed state (i.e. bahia pasture, existing pine plantation).
- The site to be planted is not scheduled for future hydrologic restoration, or site to be harvested is scheduled for hydrologic restoration and existing timber will be lost as a result of flooding.
- The area does not contain any valuable resources (e.g. endangered species) that may be harmed by changes in land use.
- Forest operations would not require major road construction or improvement for accessing and processing timber, particularly within or across wetlands or other sensitive plant communities.
- The area to be managed currently requires maintenance (i.e. burning, mowing). District costs will be reduced as a result of inclusion in the forest management plan.
- The area contains timber that requires salvage following fire and/or insect or disease damage, and could be subject to a sanitation harvest with minimal environmental impact.
- The area provides special needs for endangered species (i.e. red-cockaded woodpecker) management that requires timber stand improvement.
- The area is located such that harvest or planting will not create an aesthetically unpleasant scene or an impediment to public use.

Management Objective

- Ensure future forestry operations within the Management Area are consistent with District policies, goals, and guidelines.
- Reestablish long leaf pine forest within Lake Marion Creek WMA.

Management Action

• No timber harvests are scheduled.

5.2.4 Range Resources

<u>Policy 05.00113.9</u>. Range management and grazing will be considered on improved or native ranges when the introduction of cattle will not conflict with other natural resource management and public use goals.

Cattle grazing is used by the District and other land management agencies as a management tool, particularly for the reduction of fire fuel loads and maintenance of open range. The decision to open an area to grazing is evaluated in light of the negative

environmental impacts often accompanying cattle introduction. Cattle are vectors for non-native invasive plants, particularly bladder-pod (*Sesbania sp.*) and tropical soda apple (*Solanum sp.*). Trampling and grazing of sensitive native ground covers select for rhizome-prolific grasses and often result in dominance of non-native, early successional species. By reducing under-story plant densities, grazing eliminates natural fire patterns that would otherwise define historic plant community types. In addition, costs are incurred for exclusion fencing of sensitive environmental areas.

Cattle grazing does not occur in the Management Area because of lands designated as a Wildlife Management Area, the natural community types, and the size of the management units.

5.3 Fire

<u>Policy 05.00113.3</u>. Prescribed fire will be a primary management tool on District lands and will be applied within fire maintained communities at appropriate intervals.

Prescribed fire is one of the primary tools used in land management throughout central and south Florida. The majority of natural communities in this region rely on fire to maintain their vegetative characteristics and biodiversity. Prescribed fire regimes attempt to mimic natural fire patterns that historically reduced fuel loads, inhibited hardwood encroachment, stimulated growth in fire-adapted plants, and recycled nutrients back to the soil. However, unlike a natural wildfire, prescribed fire must be limited to a designated area and performed under defined environmental conditions. In this way, managers reduce the potential for wildfires while restoring natural community structure and function. The LSP recognizes the benefits of fire and has integrated prescribed fire into its land management strategy.

5.3.1 Fire History

Recent fires within parcels owned by the District in the LCMA were both prescribed burns and wildfires. Dates and locations of prescribed fires and wildfires are recorded (Table 4) to ensure that units are burned under recommended ecological rotations (Table 5). Most units have experienced at least one fire since District acquisition. The prescribed fire program will apply fire to unburned units, and maintain natural fire regimes in all units.

Table 4: Fire History for the Lake Marion Creek/Reedy Creek Management Area and Upper Reedy Creek Management Area

Property	Prescribed Fire Date	Fire Management Unit Number	Acres
Lake Marion Creek.			
Huckleberry Islands			
	12/97, 8/01, 7/03	Isle 1 W ½	100
	7/99, 1/02	Isle 1 E ½	100
	7/99, 4/03	Isle 2 W ½	100
	12/97, 8/01, 5/03	Isle 2 E ½	70
	7/99, 11/01, 7/03	Isle 3 W ½	100
	10/98, 8/01, 5/03	Isle 3 E ½	150
	10/98, 8/01, 7/03	Isle 3A	100
	11/99, 4/03	Isle 4 W ½	100
	11/01, 3/04	Isle 4 E ½	100
	8/01, 7/03	South Huck Isle	100
Snell Creek	7/99, 12/01	North 1/2	100
	7/99, 12/01	South 1/2	100
Torrelli North			100
	8/98, 2/03, 5/03	East ½	80
	5/03, 3/04	West ½	75
	7/98, 1/03	East Island	50
LMC Road	1/03	Stokes	50
	1/03	Parking Area	50
Torrelli South	12/01, 2/04	Scrub Unit	150
	12/01, 2/04	Island	50
	2/04	DOT Scrub	150
Horsecreek Scrub	2/03	Entrance	50
	2/03, 2/04	Powerline Scrub	100
		Baker Dairy	
Intercession City	10/99, 2/03	North end	80
	2/03	Sub-station	50
	8/01, 3/04	Borrow pit isle	75
	4/03	Quinton Bass	40
Reedy Creek	2/03		75
Poinciana	2/03	Burnley E 1/2	75
	8/01	Burnley W 1/2	150

Property	Prescribed Fire Date	Fire Management Unit Number	Acres
Lake Russell	1997	1-1	80
	1997	1-2	18
	1997	1-3	49
	1997	1-4	
	1997, 2001	2-5	20 (50)
	1997, 2001	2-6	11
	2001	4-7	61 (60)
	2001	4-8	17
	1997, 2001	2-9	9
	1997, 2001	4-10	10
	1997, 2001	2-11	53
	2001	3-12	6 (60)
	2001	3-13	8
	1997, 2001	3-14	4
	1997, 2001	3-15	5

5.3.2 Prescribed Fire Planning

A fire management plan is developed for each Management Area. The plans include a description of location and natural community types, fire history, fire management objectives for each natural community type, constraints, and field operation burn prescriptions (a sample prescription is located in Appendix L). The LSP bases all fire activity plans on ecological research and best management practices. Fire frequency schedules for each natural community consider recommendations provided in The Natural Communities of Florida (FNAI 1990). Growing season burns (summer) are encouraged. Natural firebreaks are used to promote historic fire patterns, avoid soil disturbance, and reduce hydrologic flow disruption. Application of fire, with appropriately timed herbicide treatments, is utilized as a tool for control of invasive plants. Prescribed fire planning is critical when dealing with species such as Melaleuca and Japanese Climbing Fern, which can be spread by fire.

Table 5: Natural Community Fire Frequency Summary

COMMUNITY TYPE	FIRE FREQUENCY	DETAILS
Basin Marsh	3 – 5 years	Herbaceous-dominated areas
	3 – 10 years	Willow / button bush-dominated areas
Basin Swamp	~ 2 – 4 years	Around edges of community
	5 – 150 years	In the interior of community
Depression Marsh	3 – 10 years	
Dome Swamp	3 – 5 years	Around edges of community
	100 – 150 years	In the interior of community
Dry Prairie	1-4 years	
Hydric Hammock	30 – 100 years	
Mesic Flatwoods	1 – 8 years	
Prairie Hammock	25 – 100 years	
Scrub	10 – 70 years	
Scrubby Flatwoods	5 – 25 years	
Wet Flatwoods	3 – 10 years	
Wet Prairie	2 – 4 years	

Lake Marion Creek Management Unit

Fuel reduction and ecological restoration are primary objectives on this unit. Fire exclusion appeared to be the cause of heavy fuel buildup in many of the plant communities. Most of the upland communities are fire adapted. Prescribed fire reduces liability risks, fire suppression costs, and damage to fire sensitive areas. Prescribed burning will also benefit the plants and animals living in these fire dependent communities.

Prescribed fire can also be used to restore and maintain the natural condition of the plant communities on this unit. Each plant community has its unique natural fire regime, restoration goal, and management needs. Much of the upland areas of the property are scrub and pine flatwoods and require fire. The gopher tortoise is one species that would benefit from prescribed fire. Many rare animals are commensal with gopher tortoises and their burrows (i.e., sand skink (Neoseps reynoldsi) and gopher frog (Rana capito).

Reedy Creek Management Units

Fuel reduction and ecological burning (mimicking natural fire cycles) are the primary objectives on this unit. The upland areas of this unit contains mostly fire adapted plant communities that burn readily and build up heavy fuels, causing dangerous wildfires. Regular fuel reduction through prescribed burning reduces liability risks, fire suppression costs, and damage to fire sensitive areas. Prescribed burning will also benefit the plants and animals living in these fire dependent communities. Prescribed burning has been conducted by the District since 1999 (Table 4). Wildfire suppression actions will attempt to avoid hydrologic changes and minimize disturbance of natural areas. Existing access roads will serve as control lines during prescribed fires and wildfires.

Lake Russell Management Unit

Fuel reduction and ecological restoration are primary objectives on Lake Russell. Fire exclusion appeared to be the cause of heavy fuel buildup in many of the plant communities. Most of the upland communities are fire adapted. Regular fuel reduction through prescribed burning is important due to the close proximity of this property to residential developments and a major roadway. Prescribed fire reduces liability risks, fire suppression costs, and damage to fire sensitive areas. Prescribed burning will also benefit the plants and animals living in these fire dependent communities.

Prescribed fire can also be used to restore and maintain the natural condition of the plant communities on Lake Russell. Each plant community has its unique natural fire regime, restoration goal, and management needs. Much of the interior of the property is scrub and pine flatwoods, and requires fire.

Management Objectives

- Reduce hazardous fuel loads near residential areas as well as all roadways.
- Use prescribed fire to restore and maintain the natural state and condition of the plant communities on the Management Area.
- Control the invasion of woody plants (especially wax myrtles), encourage native plant recruitment and diversity utilizing prescribed fire.
- Burn all scrub units at least once and the mesic flatwoods units for a third time by 2007.
- Regional land managers shall cooperate and coordinate with the Division of Forestry, the grazing lessees, The Nature Conservancy, and/or the District fire crew, on all future prescribed fires within the Management Area.

Management Actions

Lake Marion Creek/Reedy Creek Management Area General Management Plan 2005 - 2010 South Florida Water Management District, Land Stewardship Division

- Regional land manager shall cooperate and coordinate with the Division of Forestry and/or the District fire crew on all future prescribed fires within the Management Area.
- The regional land manager shall determine the appropriate burn frequency for each management unit.

5.3.3 Wildfire Suppression

<u>Policy 05.00113.4</u>. The DOF will be notified of all wildfires on District lands. LSP will provide initial suppression when commensurate personnel and equipment are available.

Wildfires ignited by lightning are a common occurrence throughout Florida. It is standard District procedure, and State law, to notify the DOF, local county fire department, and District emergency management personnel when a wildfire occurs on LSP-managed properties.

The DOF regional office that is responsible for Intercession City, Poinciana, and Reedy Creek units (in Osceola County) is located in Orlando. The Osceola County Fire Station responsible for the same area is based out of Kissimmee. The FDOF regional office that is responsible for Lake Marion Creek and Torelli South is located in Lakeland. The Polk County Fire Station responsible for the same area is based out of Bartow. Contact information for the Division of Forestry and the county fire departments is located in Appendix K.

Management Objective

• Safeguard District property, adjoining private property, and the public in and around the Management Area from wildfires.

Management Action

 The Land Stewardship Field Crew and land managers may respond to, or assist in, wildfire suppression on Land Stewardship-managed properties under the direction and/or request of the FDOF and/or local county fire departments.

5.4 Wildlife Management

The District is committed to the protection and conservation of wildlife resources. A prime requisite in managing these public lands is to ensure that the water, fish and wildlife populations, native plant communities and related resources are maintained in an environmentally acceptable manner (SFWMD 1999a). The LSP accomplishes this in several ways:

- performing land management activities that maintain and/or improve native wildlife habitat
- conducting specific management beneficial to protected species
- monitoring wildlife management activities through review of quarterly reports provided by the FWC
- conducting wildlife inventories where management operations may negatively impact listed species
- following management guidelines for listed species protection as determined by the Multi-species Recovery Plan for the Threatened and Endangered Species of South Florida, (U.S. Fish and Wildlife Service. 1998)
- reducing non-native pest species populations where appropriate
- maintaining a master file of confirmed and potential wildlife species
- cooperating with the FWC on wildlife management issues

Due to the sensitive nature of the resources found in the Lake Marion Creek/Reedy Creek Management Area, the District entered into a cooperative agreement with the Florida Fish & Wildlife Conservation Commission to manage the area as a Type I Wildlife Management Area in 1998 (C-9803). The lands that comprise the Lake Marion Creek WMA include one tract of land within the Upper Reedy Creek Management Area. The other units within the URCMA, Intercession City, Poinciana, and Reedy Creek, are not included in the WMA. However, it is the goal of the District to include these units within the WMA within the timeframe of this management plan.

Management Objective

• Maintain and/or improve native wildlife habitat.

Management Action

- Regional land managers shall coordinate and cooperate with FWC and USFWS (for listed species) during the development and implementation of wildlife management programs.
- Add the other units within the URCMA, Intercession City, Poinciana, and Reedy Creek, to the existing Type 1 WMA.

5.4.1 Game Management

<u>Policy 05.00114.2d</u>. Hunting, in areas opened for such use, is governed by the FWC regulations.

Game density is believed to be relatively high due to the wide array of natural communities within the Reedy Creek and Lake Marion Creek basins. Management activities consist of maintaining, increasing, or decreasing certain wildlife species which inhabit the Lake Marion Creek/Reedy Creek Management Area. The Lake Marion Creek Wildlife Management Area is the only area within the MANAGEMENT AREA in which game management occurs.

The Lake Marion Creek Wildlife Management Area was established with the Florida Fish & Wildlife Conservation Commission in 1998 under a cooperative management agreement C-9803. The Commission is the lead agency for management of game species such as deer or turkey. The South Florida Water Management District provides logistical support to the Commission for game management activities.

The primary targeted game species that are specifically managed include white-tailed deer and wild turkey. These species are prized not only for their inherent natural qualities, but also for the hunting opportunities they provide. Other game populations within the Lake Marion Creek Wildlife Management Area include quail, gray squirrels, raccoons, and rabbits.

Exotic (non-native) wildlife species which are known to inhabit the Management Area include feral hogs (*Sus scrofa*), armadillos (*Dasypus novemcinctus*), and coyotes (*Canis latrans*). Activities to reduce these species occur in several areas throughout Florida and may be necessary in the Lake Marion Creek/Reedy Creek Management Area if habitat destruction becomes evident. Common methods used to reduce these species include trapping and hunting.

All native species of birds, in addition to game birds, are protected by state and federal laws. Except as described in FWC rules, no native bird may be taken or molested. Unprotected birds (considered exotic species) include the English sparrow, European starling, rock dove (pigeon), and muscovy duck. Unprotected mammals known to inhabit the area include the armadillo and coyote.

All persons wishing to hunt on District-owned and/or managed lands within the Management Area should first consult with regional District land managers, FWC wildlife officers, current District Public Use Guide, and current FWC hunting pamphlets to ensure compliance with regulations.

Management Objective

• Protect and perpetuate game species within the Management Area.

Management Actions

• Consult and coordinate with the FWC concerning game management programs.

5.4.2 Exotic/Invasive Species

Exotic/invasive Species management targets species that negatively impact the function of native ecosystems, native species diversity or abundance. In most cases they have been introduced from foreign locations as the result of released pets, cargo stowaways, introduced game animals, or as in the case of feral hogs, naturalized from the time of early Florida exploration. Exotics compete with native species for limited resources due to their high reproductive rate and lack of ecological control factors, such as predation and disease. In some cases, exotic species inadvertently damage natural communities

they frequent, or spread disease to endemic populations. The LSP strives to reduce nonnative wildlife populations to appropriate numbers that result in an acceptable level of impact to natural communities.

Management Objective

• Reduce non-native pest species populations and their associated impacts in the Management Area.

Management Actions

- Utilize the selection criteria for those species under consideration for population control.
- Coordinate with FWC for species information, harvest laws, and population control measures.
- Employ control measures that are consistent with state law, cognizant of public safety and appropriately humane.
- Monitor pest species impact by periodic site visits.

The feral hog is a species that interferes with land management operations and is in direct competition with native species for resources. Feeding habits, high fecundity, and habitat adaptability provide an intolerable combination of pressures on most natural communities subject to feral hog populations. Hog disturbance has occurred in most wetland community types and hammocks within the area. Rooting and feeding on underground vegetation poses numerous problems, especially to biologically sensitive areas slow to recover from disturbance. Areas with high populations of hogs frequently have the ground layer vegetation denuded in certain areas, inhibiting prescribed burn efforts. Rooted areas in wetlands are susceptible to exotic plant establishment and are set back to earlier successional stages.

The feral hog is considered the primary pest species within the Management Area. The rooting of the hog causes large areas of natural community degradation. An adjoining hunt club releases hogs for its members to hunt, however these hogs stray onto District property. Beginning in 2004 a contracted hog trapper will begin to attempt to reduce the hog population on the Intercession City, Poinciana, and Reedy Creek management units. Feral hogs are removed in the Lake Marion Creek Wildlife Management Area during regulated hunts.

Management Objective

• Minimize ecological impacts associated with feral pigs located within the Management Area.

Management Actions

- Work with biologists from the FWC, Florida Department of Agriculture, and U.S. Department of Agriculture to determine the best approach to control feral pigs in the Management Area.
- Develop and implement an effective feral pig control program for the Management Area.

5.4.3 Rare, Threatened, and Endangered Species

<u>Policy 05.00112.2</u>. Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

Wildlife inventories have documented federally, state, and FNAI-listed species (endangered, threatened, and species of special concern) occurring within the Management Area (Appendix G – J). The distribution of listed species is summarized in Table 6). Impacts to these species from planned land management and recreational activities are of special concern. Activities that might jeopardize the well being of these species may be altered or cancelled. District land management activities including prescribed burning, hydrologic restoration, exotic vegetation eradication, understory control, and selective forest thinning improve natural environmental characteristics that benefit listed species as well as a variety of other indigenous wildlife.

Endangered Threatened Species Of FNAI Listed Species Special Fed Fed State State Concern Birds 3 19 5 3 6 10 2 2 3 5 Mammals 1 Amphibians 1 1

4

4

2

Table 6: Number of Documented Listed Species for MANAGEMENT AREA

Mangement Objective

Reptiles

• Complete specific land management projects beneficial to protected species.

1

Management Actions

 Regional land managers shall conduct management activities following guidelines for the protection of listed species as determined by the <u>Multi-species Recovery</u> <u>Plan for the Threatened and Endangered Species of South Florida, Volume 1,</u> (USFWS 1999e) and recommendations by the FWC.

Management emphasis concerning rare and/or listed wildlife species within the Lake Marion Creek WMA has been centered on scrub jays, gopher tortoise, Florida mouse, and sand skinks.

Florida Scrub-Jay

A Florida Scrub-Jay survey was completed for the Torelli South unit in 2003 by Glatting, Jackson, Kercher, Anglin, Rinehart Incorporated for the District and the report submitted in February 2004. The report estimated a total of 25 scrub-jay territories and a total count

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of 73 birds. The District has contracted with the Nature Conservancy (C-73806) to monitor the scrub-jays on the Torelli South unit.

Management Objective

• Protect nesting and foraging Florida scrub-jays and habitat

Management Action

- Implement management practices that are beneficial to scrub-jays
- Propose management practices that are benefical to scrub-jays
- Avoid implementing management practices that adversely affect scrub-jays
- Propose management strategies that avoid adversely affecting scrub-jays.

Florida Mouse

A small mammal trapping survey was conducted by Quest Ecology for the Florida Fish & Wildlife Conservation Commission from mid-March to mid-May to determine the presence of Florida mouse at five scrub sites at Lake Marion Creek WMA. At total of 200 traps were set for the five sites. There were eighteen captures during the trapping period, sixteen were Florida mouse, two cotton mice, and four Florida mouse recaptures. The traps were placed at or near the entrance to gopher tortoise burrows.

Management Objective

- Implement management practices that are beneficial to Florida mouse
- Propose management practices that are benefical to Florida mouse
- Avoid implementing management practices that adversely affect Florida mouse
- Propose management strategies that avoid adversely affecting Florida mouse

Management Action

- Implement management practices that are beneficial to Florida mouse
- Propose management practices that are benefical to Florida mouse
- Avoid implementing management practices that adversely affect Florida mouse
- Propose management strategies that avoid adversely affecting Florida mouse

Florida Sand Skink

The District contracted with Glatting Jackson Kercher Anglin Lopez Rinehart, Inc. to perform a sand skink survey on the Torelli South unit in the spring of 2004 with the report submitted to the District in July 2004. A total of 607 coverboards were placed for the presence of sand skinks. Sand skink swim trails were found under a total of 107 coverboards. Sand skink activity appeared to be primarily concentrated on the edges of field roads that have large amounts of open sand and low scattered vegetation that provides suitable habitat. Evidence of sand skink presence was noted at the Horse Creek scrub site during the Small Mammal Trapping Survey conducted in 2003.

Management Objective

• Implement management practices that are beneficial to Florida sand skink

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- Propose management practices that are benefical to Florida sand skink
- Avoid implementing management practices that adversely affect Florida sand skink
- Propose management strategies that avoid adversely affecting Florida sand skink

Management Action

- Implement management practices that are beneficial to Florida sand skink
- Propose management practices that are benefical to Florida sand skink
- Avoid implementing management practices that adversely affect Florida sand skink
- Propose management strategies that avoid adversely affecting Florida sand skink

Gopher Tortoise

A small mammal trapping survey was conducted by Quest Ecology for the Florida Fish & Wildlife Conservation Commission from mid-March to mid-May to determine the presence of Florida mouse at five scrub sites at Lake Marion Creek WMA and locate, measure, and assess gopher tortoise burrow activity. The study did not study the population or habitat of the gopher tortoise only the location of the burrows and whether the burrows are active, inactive, or abandoned. In the five scrub sites where the survey was conducted, one hundred burrows were located. Of the one hundred burrows; thirty-seven were active, thirty-two were inactive, and thirty-one were abandoned. Burrows are dug just wide enough so the tortoise can turn around. The average width of the burrows was 25.7 cm.

Management Objective

- Implement management practices that are beneficial to the gopher tortoise
- Propose management practices that are benefical to the gopher tortoise
- Avoid implementing management practices that adversely affect the gopher tortoise
- Propose management strategies that avoid adversely affecting the gopher tortoise
- Conduct a population survey of the gopher tortoise for the Management Area

Management Action

- Implement management practices that are beneficial to the gopher tortoise
- Propose management practices that are benefical to the gopher tortoise
- Avoid implementing management practices that adversely affect the gopher tortoise
- Propose management strategies that avoid adversely affecting the gopher tortoise

Bald Eagle

An indepth eagle survey of the SOR Upper Lakes Management Area was completed by FNA1 (contract #3491) in January 2002 (7.4.1). Appendix K lists pertinent statutes, laws, and recommendations for bald eagle management.

Management Objective

• Protect nesting, roosting, and foraging bald eagles located within the Management Area.

Management Actions

- Implement management practices that are beneficial for bald eagles.
- Propose management practices that are beneficial for bald eagles.
- Avoid implementing management practices that adversely affect bald eagles.
- Propose management strategies that avoid adversely affecting bald eagles.
- Coordinate and/or contract the identification of bald eagle roosting and feeding sites and seasonal usage patterns within all management units.

5.4.4 Monitoring

The Florida Fish & Wildlife Conservation Commission monitors wildlife within the Lake Marion Creek Wildlife Management Area. Extensive monitoring of Florida black bears and Florida panther is conducted in the floodplain. Wildlife monitoring does not occur in the other management units of the Management Area.

6. Public Use

<u>Policy 05.00110</u>. The LSP mission is to provide natural resource protection and management while allowing appropriate recreational use on designated public lands.

Section 373.1391 (1)(a), F.S.S., states wherever practical, lands acquired by the District's SOR Program shall be open to the general public for recreational uses. Potential compatible uses are outlined in Section 373.1391(1)(b), F.S.S.

The determination of compatible public use will be based on the following criteria:

- consistency with the reason the lands were acquired
- restrictions and/or prohibitions imposed by easements, leases, reservations, adjacent land ownership, and other conditions of the purchase agreement
- infrastructure and support facility requirements, such as fences, gates, signage, entry design, stabilized off-road parking, trails, campsites, maintenance, and other operational and budgetary impacts
- opportunities for persons with disabilities
- limitations resulting from endangered species, other sensitive natural resources, archaeological resources, or land management practices
- public health, safety and welfare
- environmental education program opportunities

A preliminary determination of allowable recreational activities will be set forth in the GMP for each Management Area. Carrying capacity, intensity of use, and required support facilities and services will be detailed in the activity plan, when available. Future changes

that may be necessary based on operational experience will be included in annual work plans and five-year updates to GMPs (and activity plans, if available).

Public use activities that are appropriate for the Management Area include, but are not limited to, fishing, hunting, camping, hiking, canoeing, birding, frogging, environmental education, and nature appreciation. Table 7 summarizes current recreational opportunities in the Management Area. Other related outdoor purposes shall be encouraged when such use does not interfere with protection and management of the natural resources. Special consideration will be given to the provision of outdoor recreational opportunities for persons who are physically challenged. The public use program in the Management Area shall be low impact – non-destructive to environmental characteristics of the area and be passive in nature – not requiring significant facility or infrastructure development. The appropriateness of public use activities may change with time and/or for any given area based on the criteria outlined above.

Table 7: Recreational Oportunities* Lake Marion Creek/Reedy Creek Management Area

Management Unit	Fishing	Hunting	Hiking	Camping	Canoeing	Nature Study	Frogging
Lake Marion Creek	X	X	X	S	X	X	X
Torelli South			X			X	
Intercession City			X			X	
Poinciana			X			X	
Reedy Creek	X		X		X	X	X
Lake Russell			X	S		X	

^{*}Before participating in any type of public use activity on District owned and/or managed lands, consult with the regional land manager of the current *Public Use Gude* concerning area regulations.

6.1 Resource Protection

<u>Policy 05.00111.4</u>. Public use shall not result in detrimental impacts to water resources. When a public use activity produces detrimental effects on water resources, it shall be discontinued until an evaluation determines that such use is compatible.

<u>Policy 05.00113.7</u>. Security and resource protection shall be provided by professional law enforcement services through contractual and non-contractual agreements, to safeguard the public and protect natural and cultural resources on District-managed natural areas.

[&]quot;X" indicates an activity that is regulated by statewide laws and regulations and District rules.

[&]quot;S" indicates an activity that requires a District Special Use License.

Law enforcement patrols in the Management Area are required to deter criminal activity, safeguard the public, and protect natural and cultural resources. The Management Area lends itself to contractual and in-kind law enforcement patrols. Major problems in the area include illegal entry (foot and motorized vehicle), poaching, dumping, trespassing on adjacent properties, and gate/fence/sign destruction. The LSP Resource Protection Coordinator oversees the contract (C-10162) with FWC for scheduled patrolling of District properties. The current contract expiration date is March 2024. Patrol times, locations, and type may be changed to address enforcement needs as they arise.

Contractual law enforcement patrols are performed by FWC. In-kind law enforcement patrols, patrols performed as part of the officers' normal patrol routines, are also conducted by officers of FWC and the Osceola and Polk County Sheriff's Offices. Regional offices for dispatching Wildlife Officers are located in the Commission's Lakeland Office (for Polk County: Lake Marion Creek WMA and Torelli South) and Ocala Office (Osceola County: Intercession City, Poinciana, and Reedy Creek). Contact information for the Commission and the Osceola and Polk County Sheriff's Offices is located in Appendix K.

The Osceola and Polk County Sheriff's Offices are the primary local law enforcement agencies covering the Management Area. Meetings with Sheriff's Office representatives have been made, but follow-ups will be necessary to them keep them updated on District rules and programs.

Resource protection is also greatly enhanced by the presence and maintenance of continuous, posted boundary fencing that unambiguously delineates SOR property perimeters. All exterior boundaries within the Management Area are posted. However, reposting of boundaries must be done at least semi-annually (once immediately prior to the hunting season in August or September). Many of the perimeter boundaries are fenced; however, some areas need major repairs, new fence, or minor repairs, and all need perpetual annual maintenance. In perimeter boundary areas that abut public waterways and private lands, where vegetation may obscure posting or fences, the District also mows the boundary one to two times per year.

Management Objective

• Safeguard the public, natural resources, and cultural resources located within the Management Area.

Management Actions

- Coordinate enhanced law enforcement patrols by FWC Wildlife Officers (under contract C-10162).
- Review law enforcement reports and respond to problems or requests for management assistance in a timely manner.

6.2 Environmental Education

Educational programs may be developed for select Management Areas by cooperators interested in promoting increased visitor awareness of and appreciation for natural and cultural resources. The LSP encourages educational partnerships through memorandums of understanding, leases, and contract agreements.

The District entered into a cooperative agreement (Contract # C-7947) in 1996 with the Osceola County School Board for the development and management of environmental education and public use programs at the Lake Russell Unit through 2021. The contract authorizes the School Board to create and operate an educational facility on the management unit, in conjunction with the School Board's existing Reedy Creek Environmental Education Facility. The School Board subsequently submitted (and received approval for) a development and implementation plan to the District, which is filed at the District's Orlando Service Center. The School Board teaches environmental education programs to grade school, middle school, and high school students out of two mobile education classrooms. Two administrative buildings, a storage area, and an interpretive trail had also been established under the agreement. The public is allowed access to the facility and the Management Unit (during programs and/or weekends) when School Board staff is present. The School Board began development of an extended-day educational program that enables them to teach techniques to environmental trainers during two to three day programs (participants will stay overnight in four travel trailers).

Public outreach and government affairs programs for LSP in Management Area are coordinated and implemented by two Government and Public Affairs Representatives based out of the Orlando Service Center. The staff serves as the primary contacts for media relations, government representative communications, and classroom presentations.

LSD staff will continue to provide environmental education, public outreach, and government liaison in association with the Management Area and coordinate with the District's Government and Public Affairs Representatives to develop and implement outreach and liaison activities.

Management Objective

• Provide environmental education, public outreach, and government liaison in association with the Management Area.

Management Actions

- Coordinate and oversee the development and operation of the Lake Russell Environmental Education Facility with the Osceola County School Board.
- Coordinate with the District's Government and Public Affairs Representatives to develop and implement outreach and liaison activities.

7. Administration

LSP personnel administer the management of SOR natural areas from the SFWMD headquarters office in West Palm Beach. Policy decisions, acquisition procedures, contract administration and select issues of program development are coordinated from headquarters.

LSP land managers located in District Regional and Service Centers (Orlando Service Center for the Management Area), administer in-field land management and participate in administrative functions such as funding, planning, reporting and external entity coordination (see Appendix K for contact information).

7.1 Planning and Budgeting

The LSP develops preliminary strategies to guide management activities for each project area. The strategies are defined in General Management Plans (GMP) developed by LSP planning personnel. Activity plans are created only for those management activities that require a detailed technical plan. General and activity plan content is standardized in a logical sequence to insure comprehensive coverage of pertinent issures and information

<u>Policy 05.00117.2</u>. General management plans provide a description of recommended management and is required for each Land Stewardship Management Area. The GMP follows a designated format and is updated every five years.

Each GMP is a guideline document that directs the land manager toward land management goals on a specified Management Area. The document defines goals and objectives, identifies and prioritizes major management needs and issues, serves as a management assessment and is expandable to adjust for discussion of future significant management requirements. GMPs are created or coordinated by the LSP planning section. Where joint management occurs, the lead management agency is responsible for management plan creation, with the plan subject to LSP review and District Governing Board approval.

This plan updates the original five year GMP for Lake Marion Creek that was completed in 1999 (Udelhoven 1999) and combined the Lake Marion Creek and London Creek management units. This GMP is for the Lake Marion Creek/Reedy Creek Management Area as well as the Upper Reedy Creek Management Area and excludes London Creek. This combination was done because a tract of land that was included in the development of the Lake Marion Creek Wildlife Management Area is within the Upper Reedy Creek Management Area. The London Creek management unit will be included in the 2009 Kissimmee Chain of Lakes General Management Plan revision.

<u>Policy 05.00117.4.</u> Annual work plans summarize activities corresponding with annual budget development and are prepared by the Operations Section of the LSP.

Annual work plans, based on general management and activity plans, are developed each fiscal year. The plas provide technical detail, budget, manpower requirements, and timetables for project implementation. In most instances, these plans are produced by

either the LSP land manager, under the general guidance of the supervising land manager; or the lead management agency, with review by the LSP land manager. The plan's life span is often several years, however, its progress is evaluated annually by land managers during annual work plan reviews. Activity plans are available for inspection at the land manager's regional office.

Standardized annual work plans for the Upper Lakes Region (which includes the Management Area) are developed each fiscal year based on general management and activity plans. This work plan will include oversight of activities planned by cooperative managers, and will be submitted to the Supervising Land Manager for inclusion into the District-wide LSP Annual Work Plan.

<u>Policy 05.00115</u>. The District will secure dedicated funding sources, personnel and other resources to support program goals and objectives. Project funding needs and sources for cooperative management agreements with government and non-government entities will be identified during acquisition. A cooperative management agreement will designate a lead manager and identify whether District funding is required.

The principle source of funding for the SFWMD SOR Program is the Water Management Lands Trust Fund, generated by a state documentary tax stamp. This funding source is augmented in several ways.

- The SFWMD actively pursues revenue generation that is compatible with SOR goals and pursuant to the 1997 revisions of Section 253.034, F.S. This includes use of renewable resources where multi-use designation of the property exists, as is the case with SOR lands.
- The District seeks partnerships for implementation of its land management program, and has been successful in coordinating in-kind services with numerous state and local government entities, such as the FWC, FDOF, FDEP, county governments, private environmental groups, and volunteers.
- Grazing leases are obtained with land purchase or developed after purchase to use renewable resources.
- User groups and volunteers supply no-cost services for developing and maintaining public use facilities and participating in select land management activities.
- LSP seeks funding through mitigation banking and develops plans for use of these funds to restore, preserve, and manage Land Stewardship-managed lands.

The District's fiscal year runs from October 1 through September 30. LSP budget planning occurs on an annual basis starting in March of the previous fiscal year. Overall budget availability generally determines management activities. Budget distribution among the five land management regions is based on a prioritization of management activities within those regions. Operational funds are distributed to accomplish the management objectives of each Management Area.

Annual budgeting for the Management Area is based on the management framework as presented in this GMP. Annual Work Plans outline activities that require budgeted items.

LSD staff will continue to provide:

- Annual operational and capital improvement budgets sufficient for staff, equipment, and supply resources necessary to attain a level of responsible management as outlined in Management Area GMP.
- Develop and submit annual budget requests based on specific management needs for preservation, evaluation, applied management, human-use activities, and administration.
- Tracking of budget expenditures on a monthly and annual basis to ensure efficient use of budget resources.
- Identification of deficiencies in budget amounts and request appropriate additions to attain levels of responsible management as detailed in the GMP.

7.2Infrastructure Management

<u>Policy 05.00113.11</u>. Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands. Such infrastructure includes access points, roads, trails, utilities, and minimal public facilities.

Pedestrian access to District lands for public recreational purposes will be allowed, upon completion, establishment, or implementation of:

- An ecological survey or inventory;
- A recreation assessment;
- A risk assessment:
- A boundary survey and required posting;
- Designation of authorized point(s) of entry;
- Security measures; and
- Governing Board approval.

There are no current plans to develop formal hiking, biking, or horseback riding trails in the Management Area. No specific pedestrian access facilities (i.e. hiking trails) exist or are planned for the Management Area. Pedestrians may walk or hike throughout areas opened for such use. Pedistrian access points are identified in the *Public Use Guide*. The District will continue to provide pedestrian and improved management access to the Management Area as specified by District public use rules.

Motorized access to the Management Area by vehicles is allowed at Lake Marion Creek Wildlife Management Area during regulated hunting seasons. No public vehicular traffic (automobiles, trucks, swamp buggies, ATVs, 4x4s) is allowed at any location within the Management Area. Parking areas are located at the Lake Marion Creek WMA, Intercession City, and Reedy Creek management units.

7.3 Personnel and Equipment

A select group of District employees plan and manage the functions of the LSP. This group includes professional land managers assigned to regional service centers. Regional land managers have specific geographical responsibilities for comprehensive management in

their respective areas, as well as special management expertise (law enforcement, prescribed fire, exotic control) that they share with other managers throughout the agency.

A highly-trained field crew is based at the Dupuis Management Area (Land Stewardship Field Crew), and supports the professional staff by performing diversified land mangement tasks throughout the District. LSP planning staff executes planning functions and evaluates and monitors LSP management. Student interns are hired on a project-specific, time-limited basis. Interns are recruited through the District's human Resources Division and the Student Conservation Association.

Successful management of the Management Area is dependent upon the efficient and effective distribution of Land Stewardship personnel. Currently, there are two full-time professional land manager positions and a land management technician—based in the Orlando Service Center—who are responsible for management activities within the Management Area and serve as primary contacts (see Appendix K for contact information). District staff located outside of the region is available to assist the regional land managers for project-specific activities. Field crew members, from the District's Kissimmee Field Station, and student interns are available from time to time on a project basis.

Management Objective

 Provide the staff necessary to successfully attain management goals and objectives as outlined in GMPs, activity plans, and annual work plans for the Management Area.

Management Actions

- Strive to maintain current levels of staffing through proper planning, reporting, budgeting, and personnel actions.
- Identify deficiencies in staffing levels and request appropriate staff additions to attain levels of responsible management as detailed in the GMP.

Staff has access to tools, supplies, equipment, four-wheel drive vehicles, vessels, fire suppression trucks, all terrain vehicles, swamp buggies, an airboat, a dump truck, tractors, a road grader, a backhoe, and a large plow. The District's Kissimmee Field Station crew and equipment, as well as leased equipment, are also available to assist in the Management Area on a limited basis. Staff will continue to acquire the equipment, supplies, and tools necessary, as budgets allow, attaining management objectives as outlined in the GMP, activity plans, and annual work plans for the Management Area.

Management Objective

• Provide the equipment, supplies, and tools necessary to successfully attain management objectives as outlined in the GMP, activity plans, and annual work plans for the Management Area.

Management Actions

Lake Marion Creek/Reedy Creek Management Area General Management Plan 2005 - 2010 South Florida Water Management District, Land Stewardship Division

- Identify deficiencies in equipment and supply levels and request appropriate additions to attain levels of responsible management as detailed in the GMP.
- Maintain (and seek repairs to) all tools, supplies, and equipment to ensure good condition.

7.4 Volunteers and Alternate Work Force

<u>Policy 05.00115.4a</u>. Volunteers, interns and alternative work forces will be used when possible to supplement existing staff and services.

Section 373.1391(3) F.S. encourages the District to use volunteers and enter agreements with other governmental agencies to provide cost-effective land management.

Land management objectives are increasingly met by seeking alternative work force services and exploring innovative ways to supplement existing personnel. The District recognizes the merits of volunteerism and welcomes participation in activities appropriate for public involvement. Selection of appropriate management activities is at the discretion of the acting land manager under the general guidance of the supervising land manager. In addition, alternative work force programs are utilized for projects that require abundant manual labor with minimal technical skills. Agreements for use of work force personnel are arranged through the SFWMD's Human Resources Division or lead land management agency, and coordinated by the regional land manager.

Under the cooperative agreement with the Osceola County School Board, numerous volunteers donated time and materials toward the development and operation of the environmental education facility at the Lake Russell Unit. These volunteers are recruited and coordinated by the Osceola County School Board. School Board use of volunteers is an essential component of the program and expected to continue throughout the duriation of the contract.

Management Objective

• Use volunteer and alternative work force opportunities within the Management Area.

Management Actions

- Solicit appropriate volunteer participation in the Management Area.
- Report volunteer efforts in monthly reports.

7.5 Contractual Management

<u>Policy 05.00115.1</u>. The private sector may be solicited to furnish certain management-related facilities and services through the execution of leases and agreements. These leases/agreements will assure mutual benefits to both the District and private parties and be consistent with the program management objectives.

Effective operation and management of LSP properties requires the services and cooperation of private organizations, other governmental agencies, and volunteers. Contractual management is legalized through a management agreement signed by both the District and contracting entity with the document defining responsibilities of each party.

Table 8: Contract Summary for Lake Marion Creek/Reedy Creek Management Area

MANAGEMENT AREA - UNIT	CONTRACT TYPE	CONTRACT ENTITY	CONTRACT NUMBER	IMPLEMENTATI ON DATES
Total Area Lake Marion Creek MA	Enhanced Law Enforcement Patrol	Florida Fish and Wildlife Conservation Commission	C-10162	1999 - 2024
Lake Marion Creek WMA	Wildlife Management	Florida Fish and Wildlife Conservation Commission	C-9803	1998 - 2018
Intercession City, Poinciana, Reedy Creek Management Units	Hog Trapping			
Total Area Lake Marion Creek MA	Prescribed Fire Support	The Nature Conservancy		
Lake Russell Unit	Environmental Education and Public Use Development	Osceola County School Board	C-7947	1996 - 2021
Lake Marion Creek / Reedy Creek MA within Polk County	Land Acquisition and Reimbursing SFWMD for management	Polk County Commission	C-6346 C-8332	

In addition to the above contracts, the Southwest Florida Water Management District acquired 300 acres of land within the Lake Marion Creek/Reedy Creek Project Area in 1997. Other lands, totaling approximately 2,600 acres, within the Southwest Florida Water Management District are targeted for future acquisition. Because these lands are in close proximity to the South Florida Water Management District / Southwest Florida Water Management District boundary, and because the South Florida Water Management District has a large Management Area adjacent to the Southwest Florida Water Management District parcels, the districts have agreed to enter into a management agreement for the property (Contract No. C-9804). Under the agreement, the South Florida Water Management District will actively manage Southwest Florida Water Management District's property in exchange for reimbursement of management costs. This agreement was finalized in July 1998.

After implementation of the cooperative management agreement begins, annual work plans and proposed budgets, for the upcoming South Florida Water Management District fiscal year (October–September), will be submitted to the Southwest Florida Water Management District in January of each year. Four quarterly reports for the periods October–December, January–March, April–June, and July–September, will be submitted to the Southwest Florida Water Management District at the end of each quarter. In October of each year (after the end of the Southwest Florida Water Management District fiscal year in September), an invoice for reimbursement of annual management expenses shall be submitted to the Southwest Florida Water Management District.

Polk County has entered into formal agreements (contract numbers C-6346, C-8332), with the District to jointly purchase lands within the Lake Marion Creek/Reedy Creek Management Area, which have been identified as sensitive habitat areas. Under the agreement, the County and the District equally share acquisition costs while the District is responsible for land management activities after acquisition. The County will reimburse the District for management costs up to \$9.00 per acre per year, for those parcels jointly acquired. As of October 1998 these lands totaled approximately 2,153 acres. Joint acquisition for other parcels is planned, pending negotiations with landowners. The Polk County Natural Resources & Drainage Division located in Bartow is the contact agency for this agreement.

Annual work plans and proposed budgets, for the upcoming South Florida Water Management District fiscal year (October–September), will be submitted to the County in January of each year. Four quarterly reports for the periods October–December, January–March, April–June, and July–September, will be submitted to Polk County at the end of each quarter. In October of each year (after the end of the County fiscal year in September), an invoice for reimbursement of annual management expenses shall be submitted to the County.

The USFWS has property that is on the southern boundary of the Lake Marion Creek WMA Snell Creek unit. This 137 acre tract is part of the Lake Wales Ridge National Wildlife Refuge system. District staff has been in discussion with the USFWS to manage this property as part of the Lake Marion Creek WMA.

Private concessions and/or agreements with non-profit organizations may be considered to implement needed services through concession contracts As of July 2004, there were no current or planned concessions within the Management Area. The District will continue to evaluate proposed concession services and/or facilities on a case-by-case basis.

In certain circumstances, it is expedient to coordinate management activities without the benefit of a contract. These non-contractual agreements are usually the result of a long-standing interest of private individuals or groups in select parcels of Land Stewardship properties, but may also involve government agencies with common land management goals. Where mutual benefit is derived by cooperator participation in land management, defined management tasks may be delegated to them as hand shake deals, without legal documentation. Selection of appropriate management activities and projects for non-contractual agreement is at the discretion of the regional land manager, with review of the LSP division director and supervising land manager.

7.6 Management Review

GMPs are created following a designated format and provide description of recommended management for each Land Stewardship Management Area. The GMP is updated every five years. Management review teams evaluate management plans and participate in on-site reviews of management practices. Team members consist of the LSP regional land manager, and representatives from FWC, FDEP, Florida Division of Forestry (FDOF), local soil and water conservation districts, local government and private land management interests, and conservation organizations.

Land managers submit regional monthyly reports to the LSP office in West Palm Beach. These reports indicate progress toward achieving annual work plan objectives. In addition to reporting those activities conducted by District staff, monthly reports also contain information concerning activities conducted by cooperative managers, lessees, and contract personnel.

LSP quarterly meetings address management problems and unresolved issues of the previous quarter, and plan for future management operations.

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Appendix A

Definitions

Adaptive Management – a cyclical process in which inventories document resource presence, management actions are applied, and monitoring and research activities evaluate the effectiveness of those actions; management actions are then revised and applied again.

Archaeological / Historic Resources - any prehistoric or historic district, site, building, object, or property of historic, architectural, or archaeological value relating to the history, government, and/or culture of a historic or pre-historic people.

Best Management Practices - the best available technology or process that is practical and achieves the desired goal or objective.

Cooperating Agencies - two or more agencies working together to operate a specific Management Area.

Cooperative Management Agreement - an agreement between two or more agencies outlining the respective duties and responsibilities of each agency in the management of a specific tract of land.

Easement - an interest in the land of another that provides the easement holder specified rights without fee-title ownership.

Endemic - native to, and restricted to, a particular geographic region

Enhancement - modification of select physical attributes of a natural community to improve ecosystem function.

Exotic - an organism whose origin is of another continent.

Lease - a legal agreement that defines rights and responsibilities for use of land owned by another party.

Listed Species - species considered at risk (species of special concern, threatened, or endangered) within a specific geographic area by the USFWS and the FWC.

Maintenance - work performed to preserve property conditions on a regular basis.

Management - planned control and manipulation of factors affecting property conditions.

Management Area - a single tract or combination of tracts under one management program.

Management Assessment - a brief summary of the management issues completed when the site is identified for acquisition.

Mitigation Banking - wetland acquisition, creation, restoration, or enhancement undertaken expressly to provide compensation in advance of wetland losses from development activities.

Multiple-Use - the management of renewable resources for a variety of purposes such as recreation, range, timber, wildlife habitat, and water resource development.

Native Species - species considered indigenous to the North American continent prior to European settlement.

Natural Community - a distinct and reoccurring assemblage of plant and animal populations naturally associated with each other and their physical environment.

Prescribed Fire - application of fire to natural communities according to a written prescription; the prescription executed with a defined goal and under specific environmental and physical parameters.

Regional Mitigation Area - Permitted wetland impacts offset through payment for the acquisition, restoration, enhancement, and perpetual management of a Save Our Riversidentified and duly noticed project.

Reservation - a legal agreement between a property seller and buyer that defines the seller's rights and responsibilities of post-sale property use.

Responsible Management - that level of management described in the General Management Plan (GMP).

Restoration - re-creation of physical attributes of a natural system with the intent to return original ecological function.

Sustainable Use - to provide continued use of a natural resource without long-term degradation or loss of that resource

Appendix B

Land Stewardship Program Goals and Policies

05.0011 The LSP mission is to provide natural resource protection and management while allowing appropriate recreational use on designated public lands.

05.00102 This policy shall apply to all lands managed by the LSP, Preservation 2000, Florida Forever or mitigation funding. This policy will be reviewed and approved by the district Governing Board at five (5) year intervals or earlier, and updated as required. Public comment will be solicited as part of the review process.

05.00102 - This policy shall apply to all lands managed by the Land Stewardship Program, Preservation 2000, Florida Forever or mitigation funding. This policy will be reviewed and approved by the District Governing Board at five (5) year intervals or earlier, and updated as required. Public comment will be solicited as part of the review process.

Water resource lands designated as necessary to implement the Central and Southern Florida "Restudy" Project, shall upon acquisition become the responsibility of the (Interim) Land Management Program, and follow the guidelines set forth under Section 373.1391(5) F.S. and HB 1119.

- 05.0011 The Land Stewardship Program mission is to provide natural resource protection and management while allowing appropriate recreational use on designated public lands.
- 05.00111 The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources.
- 05.00111.1 Acquired lands shall be managed to provide water resource related benefits.
- 05.00111.3 Where feasible, an attempt shall be made to restore a more natural hydroperiod on tracts where the drainage patterns have been altered.
- 05.00111.4 Public use shall not result in detrimental impacts to water resources. When a public use activity produces detrimental effects on water resources, it shall be discontinued until an evaluation determines that such use is compatible.
- 05.00111.5 Water resource lands designated as necessary to implement the Central and Southern Florida "Restudy" Project, shall upon acquisition, become the responsibility of the (Interim) Land Stewardship Program and follow the guidelines set forth under Section 373.1391(5) F.S. and H.B. 1119.

- 05.00112.1 The Land Stewardship Program will encourage the acquisition of large or regionally significant areas that protect important natural resources and provide wildlife corridors.
- 05.00112.2 Particular emphasis shall be placed on the identification, protection and management of rare, threatened, and endangered species.
- 05.00112.3 Planting of exotic/invasive plant species shall be prohibited in all Management Areas. Management practices will strive to identify existing infestations and implement appropriate control or eradication measures.
- 05.00112.4 Where practicable, an attempt shall be made to restore and maintain desirable vegetation to promote habitat diversity in areas where exotic/invasive vegetation or improved land uses have substantially altered the historic landscape.
- 05.00113c Legislative-mandated (H.B. 1119) management review will provide input from professional peers.
- 05.00113.1 Lands acquired for natural and /or hydrologic resource benefits shall be managed to conserve and protect those resources.
- 05.00113.10 Archaeological and historical resources are protected by site identification and inter-agency coordination with the Department of Historical Resources. Land management planning shall include an analysis of archaeological data accompanied by appropriate public education opportunities.
- 05.00113.12 Mechanical equipment may be used in conjunction with prescribed burning and other management tools to control vegetation and restore habitat structure.
- 05.00113.2 Exotic plant control in all Management Areas shall attain a level of success where periodic maintenance eliminates the infestation or reduces the spread of exotic plants.
- 05.00113.3 Prescribed fire will be a primary management tool on District lands and will be applied within fire maintained communities at appropriate intervals.
- 05.00113.4 The Division of Forestry will be notified of all wildfires on District lands. The Land Stewardship Program will provide initial suppression when commensurate personnel and equipment are available.
- 05.00113.6 Evaluation and monitoring of management activities shall be conducted to improve program effectiveness and efficiency.
- 05.00113.6 Inventories of natural and historic resources shall be performed to provide information for effective land management planning, natural community maintenance, and ecological restoration.

- 05.00113.6a Research shall evaluate the environmental response of certain management activities to assist staff in making appropriate management decisions.
- 05.00113.6b Monitoring shall be conducted to identify landscape changes resulting from management activities.
- 05.00113.6c Timber sales will be conducted to improve forest health or support specific forest management goals.
- 05.00113.6d Grazing leases will be encouraged on selected range land to generate revenue or to provide services that offset program management costs.
- 05.00113.7 Security and resource protection shall be provided by professional law enforcement services through contractual and non-contractual agreements, to safeguard the public and protect natural and cultural resources on District-managed natural areas.
- 05.00113.8 Sustainable use of forest resources shall be conducted where these activities adhere to a series of environmental criteria that meet Land Stewardship Program goals. Timber contractors will be required to meet silvicultural best management practices developed for Florida forests.
- 05.00113.9 Range management and grazing will be considered on improved or native ranges when the introduction of cattle will not conflict with other natural resource management and public use goals.
- 05.00113.11 Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands. Such infrastructure includes access points, roads, trails, utilities, and minimal public facilities.
- 05.00114.1 Public use of Management Areas shall be encouraged that is consistent with other management goals. Public use that may have detrimental impacts on sensitive environmental resources shall be restricted until an evaluation determines such use is compatible. A public use compatibility assessment will be included in the General Management Plan completed for each Management Area and will be based on the following criteria:
 - Consistency with the reason the lands were acquired;
 - Restrictions and/or prohibitions imposed by easements, leases, reservations, adjacent land ownership, and other conditions of the purchase agreement;
 - Infrastructure and support facility requirements, such as fences, gates, signage, entry design, stabilized off-road parking, trails, campsites, maintenance, and other operational and budgetary impacts;
 - Opportunities for persons with disabilities;
 - Limitations resulting from endangered/threatened/rare species, other sensitive natural resources, archaeological resources, or land management practices;
 - Public health, safety and welfare; and

- Environmental education program opportunities.
- 05.00114.2a Public use regulations are set forth in 40E-7.511 F.A.C. to implement Sections 259.101, 373.016(2)(h), and 373.1391(1)(b), F.S. Accordingly, the District publishes and makes available to the public a "Public Use Guide" for designated land Management Areas. The Public Use Guide will be considered by the Governing Board at a public meeting advertised in accordance with Chapter 120, F.S.S.
- 05.00114.2b Rules and regulations governing the public use of each Management Area shall be enforced by agencies with appropriate law enforcement jurisdiction.
- 05.00114.2b Regional Mitigation Areas: The acquisition, restoration and management of District lands as mitigation shall be consistent with Chapter 373.414, F.S.S., and the District's Operational Protocol for Cash Payment as Mitigation. This includes the development of restoration plans to implement the mitigation using full-cost accounting, public noticing, and approval by the Governing Board of the mitigation area. The mitigation shall implement an identified restoration objective, approved by the land manager as developed in a management plan.
- 05.00114.2c Pursuant to Section 373.609, F.S., it shall be the duty of every state and county attorney, sheriff, police officer, and the appropriate city and county official to assist the District, and their agents, in the enforcement of the provisions set forth according to 40E-7.511 F.A.C.
- 05.00114.2d Hunting, in areas opened for such use, is governed by Florida Fish and Wildlife Conservation Commission regulations.
- 05.00114.4b Any volunteer services must meet the standards and procedures prescribed by the District (Risk Management Manual Vol. 1).
- 05.00115 The District will secure dedicated funding sources, personnel, and other resources to support program goals and objectives. Project funding needs and sources for cooperative management agreements with government and non-government entities will be identified during acquisition. A cooperative management agreement will designate a lead manager and identify whether District funding is required.
- 05.00115.a Mitigation banking provides an opportunity to accomplish large-scale restoration that may otherwise go unfunded. Pursuant to Chapter 373.4135, F.S., the District was encouraged to develop mitigation banks. Land managers will evaluate opportunities in their regions to implement mitigation banks that are consistent with the guidelines established in the Joint State and Federal Mitigation Bank Review Team Process for Florida.
- 05.00115.1 The private sector may be solicited to furnish certain management-related facilities and services through the execution of leases and agreements. These

leases/agreements will assure mutual benefits to both the District and private parties and be consistent with the program objectives.

05.00115.3a - Private concessions and/or agreements with non-profit organizations will be considered to implement needed services through concession contracts.

05.00115.33b - Entrance and user fees, permits, licenses and/or advance reservations may be required for use of District lands where considered necessary by the managing agency.

05.00115.4a - Volunteers, interns, and alternative work forces will be used when possible to supplement existing staff and services.

05.001157.5 Reporting - Summaries of management activities for each Management Area will be reported monthly within the District and annually as part of the Florida Forever Work Plan.

05.00117.2 - General management plans provide a description of recommended management and is required for each Land Stewardship/Save Our Rivers Management Area. The general management plan follows a designated format and is updated every five years.

05.00117.3 - Activity plans provide a detailed implementation strategy for specific activities such as prescribed burning, exotic removal, and restoration. The plan shall be developed by the lead manager in consultation with the cooperating agencies for each major tract of land (or groups of tracts) to be operated as a single management unit. Activity plans may be included in the general management plans and are updated when necessary.

05.00117.4 - Annual work plans summarize activities corresponding with annual budget development and are prepared by the Operations Section of the Land Stewardship Program.

Appendix C

Acronyms

AWP Annual Work Plan

CWA Clean Water Act

FCREPA Florida Committee on Rare and Endangered Plants and Animals

FDHR Florida Division of Historical Resources

FDOF Florida Division of Forestry

FDEP Florida Department of Environmental Protection

FWC Florida Fish and Wildlife Conservation Commission

FNAI Florida Natural Areas Inventory

GMP General Management Plan

GOAA Greater Orlando Aviation Authority

LSP Land Stewardship Program (SFWMD)

NGVD National Geodetic Vertical Datum

NSLP Natural Soil Landscape Positions

OFW Outstanding Florida Waters

ONRW Outstanding Natural Resource Waters

SFWMD South Florida Water Management District

SOR Save Our Rivers Program (SFWMD)

TNC The Nature Conservancy

USFWS United States Fish and Wildlife Service

WMA Wildlife Management Area (FWC)

Appendix D - Floral Species List

Inventoried by: Edwin Bridges and Gary Reese, 1996-1997, Fairchild Tropical Gardens
Darla Fousek and Mia VanHorn, 1997, South Florida Water Management District
Rufinao Osario, 1997, Independent Contractor for the South Florida Water Management District

Total			Family	- Indiana State St
Species	FAMILY	Species		COMMON NAME
Count	.,	Count	02.100 01 20.20	O SIMILARIE
1	Acanthaceae	1	Justicia angusta	Everglades or Pineland Water-willow
2		2	Ruellia caroliniensis subsp.	Carolina Wild-petunia
			caroliniensis	·
3	Aceraceae	1	Acer rubrum var. trilobum	Southern Red Maple
4	Agavaceae	1	Nolina brittoniana	Bear-grass Bear-grass
5		2	Yucca filamentosa	Adam's Needle
6	Alismataceae	1	Sagittaria graminea var. chapmanii	Grass-leaf Arrowhead; Baygalls
7		2	Sagittaria graminea var. graminea	Grass-leaf Arrowhead
8		3	Sagittaria lancifolia	Bull-tongue Arrow-head
9		4	Sagittaria latifolia	Common or Broad-leaf Arrowhead; Duck Potato; Wapato
10	Amaranthaceae	1	Alternanthera philoxeroides	Alligator-weed
11		2	Amaranthus australis	Southern Water Hemp; Giant or Southern Amaranth
12		3	Froelichia floridana	Cottonweed; Plains Snake-cotton
13		4	Iresine diffusa	Bloodleaf; Juba's Bush
14	Amaryllidaceae	1	Crinum americanum	String-lily; Southern Swamplily; Seven Sisters
15	Anacardiaceae	1	Rhus copallina	Winged or Shining or Dwarf Sumac
16		2	Toxicodendron radicans	Poison Ivy
17	Annonaceae	1	Asimina obovata	Flag or Big-flower Pawpaw
18		2	Asimina parviflora	Small-flower Pawpaw
19		3	Asimina reticulata	Reticulate or Netted Pawpaw
20	Apiaceae	1	Centella asiatica	Coinwort; Asian Coinleaf; Spade-leaf
21		2	Cicuta mexicana	Mexican or Spotted Water-hemlock
22		3	Cyclospermum leptophyllum	Marsh Parsley
23		4	Eryngium aquaticum	Corn Snakeroot; Marsh Coyote-thistle
24		5	Eryngium aromaticum	Fragrant Eryngium; Fragrant Coyote-thistle
25		6	Eryngium baldwinii	Matted Button Snakeroot; Baldwin's Coyote Thistle
26		7	Eryngium yuccifolium	Rattlesnake-master; Button Snakeroot
27		8	Hydrocotyle bonariensis	Coastal Plain Marsh or Water Pennywort
28		9	Hydrocotyle ranunculoides	
29		10	Hydrocotyle umbellata	Marsh or Many-flower Pennywort
30		11	Hydrocotyle verticillata	Whorled Pennywort; Whorled Marsh-pennywort
31		12	Oxypolis filiformis	Water Dropwort; Water Cowbane
32		13	Sanicula canadensis	Clustered or Canadian Black-snakeroot
33	Aquifoliaceae	1	Ilex ambigua var. ambigua	Carolina Holly; Sand Holly
34		2	Ilex cassine	Dahoon Holly; Dahoon
35		3	Ilex coriacea	Large or Sweet Gallberry
36		4	llex glabra	Inkberry; Gallberry
37		5	Ilex opaca var. arenicola	Scrub or American Holly
38		6	llex opaca var. opaca	American Holly
39	Araceae	1	Arisaema triphyllum	Swamp Jack-in-the-pulpit; Indian Turnip
40		2	Orontium aquaticum	Golden Club; Neverwet
41		3	Peltandra virginica	Green Arum; Green Arrow Arum
42		4	Pistia stratiotes	Water-lettuce
43	Arecaceae	1	Rhapidophyllum hystrix	Needle Palm
44		2	Sabal etonia	Scrub Palmetto
45		3	Sabal minor	Dwarf or Bluestem Palmetto
46		4	Sabal palmetto	Cabbage Palm
47		5	Serenoa repens	Saw Palmetto
48		6	Syagrus romanzoffianum	Queen Palm

49	Asclepiadaceae	1	Asclepias cinerea	
50		2	Asclepias curtissii	Curtiss' Milkweed
51		3	Asclepias feayi	Feay's Milkweed
52		4	Asclepias pedicellata	Savannah Milkweed
53		5	Asclepias perennis	Aquatic Milkweed

	1		1	la a
54		6	Asclepias tuberosa subsp. rolfsii	Butterfly-weed
55		7	Cynanchum scoparium	Leafless Cynanchum; Leafless Swallow-wort
56		8	Matelea gonocarpos	Angle-Pod; Spiny-Pod
	Aspidiaceae	1	Dryopteris Iudoviciana	Florida or Southern Shield Fern; Southern Wood Fern
58		2	Polystichum acrostichoides	Christmas Fern
59		3	Thelypteris dentata	Downy Shield Fern; Downy Maiden Fern
60		4	Thelypteris hispidula var. versicolor	Rough Hairy Maiden Fern
61		5	Thelypteris interrupta	Willdenow's Maiden Fern
62		6	Thelypteris kunthii	Widespread Maiden Fern
63		7	Thelypteris palustris var. pubescens	Eastern Marsh Fern
64	Asteraceae	1	Acmella oppositifolia var. repens	Button of Gold; Creeping Spotflower
65		2	Ageratina jucunda	Hammock Thoroughwort
66		3	Ambrosia artemisiifolia	Common or Annual Ragweed
67		4	Aster caroliniensis	Climbing Aster
68		5	Aster dumosus	Bush Aster
69		6	Aster elliottii	Elliott's Aster
70		7	Aster reticulatus	Pine Barren White-top Aster
71		8	Aster subulatus	Annual Saltmarsh Aster
72		9	Aster tortifolius	White-topped Aster
73		10	Baccharis glomeruliflora	Groundsel Tree; Silverling
74		11	Baccharis halimifolia	GroundselTree;SeaorSaltMyrtle;Eastern False-willow
75		12	Balduina angustifolia	Yellow Buttons; Coastal-plain Honeycomb-head
76		13	Bidens alba var. radiata	Common Begger-ticks
77		14	Bidens bipinnata	Spanish Needle(s)
78		15	Bidens mitis	Marsh or Small-fruited Beggar-ticks
79		16	Bigelowia nudata subsp. australis	South Florida Rayless-goldenrod
80		17	Boltonia diffusa	FalseAster;Small-headDoll'sDaisy;Saltmarsh Boltonia
81		18	Carphephorus corymbosus	Coastal-plain Chaffhead
82		19	Carphephorus odoratissimus	Odorless Vanilla-leaf
83		20	Carphephorus paniculatus	Hairy Chaffhead
84		21	Chrysopsis scabrella	Coastal-plain Golden-aster
85		22	Cirsium horridulum	Yellow or Horrid Thistle
86		23	Cirsium muticum	
87		24	Cirsium nuttallii	Nuttall's Thistle
88		25	Conoclinium coelestinum	Blue Mistflower
89		26	Conyza canadensis var. pusilla	Dwarf Horseweed
90		27	Coreopsis floridana	Florida Tickseed
91		28	Coreopsis leavenworthii	Leavenworth's Tickseed
92		29	Elephantopus species	Elephant's Foot
93		30	Erechtites hieracifolia	Fireweed; American Burn
94		31	Erigeron quercifolius	Southern or Oakleaf Fleabane
95		32	Erigeron vernus	Daisy or Early White-top Fleabane
96		33	Eupatoriadelphus fistulosus	Hollow Joe-pye-weed
97		34	Eupatorium capillifolium	Small Dog-fennel Thorough-wort; Dog Fennel
98		35	Eupatorium compositifolium	Dog Fennel; Yankee Weed
99		36	Eupatorium leptophyllum	Marsh Fennel
100		37	Eupatorium mohrii	Dog-fennel; Pale Boneset; Mohr's Thoroughwort
101		38	Eupatorium recurvans	Coastal Plain Thoroughwort
102		39	Eupatorium rotundifolium	False Horehound; Round-leaf Thorough-wort
103		40	Eupatorium serotinum	Late-flowering Thoroughwort
104		41	Euthamia tenuifolia	Slender Fragrant or Flat-topped Goldenrod
105		42	Garberia heterophylla	Garberia
106		43	Gnaphalium obtusifolium	Sweet Everlasting; Rabbit's Tobacco
107		44	Helenium pinnatifidum	Southeastern Sneezeweed
108		45	Helianthus angustifolius	Swamp Sunflower
109		46	Helianthus floridanus	Florida Sunflower
110		47	Heterotheca subaxillaris	Camphor-weed
111		48	Hieracium megacephalon	Hawk's Beard; Coastal-plain Hawkweed
112		49	Iva microcephala	Piedmont Sumpweed; Piedmont Marsh-elder
113		50	Krigia virginica	Virginia Dwarf-dandelion
114		51	Lactuca floridana	Wild or Woodland Lettace
115		52	Liatris chapmanii	Chapman's Gayfeather

1979 1985 1. Lucius ya. ya. dullar 1985 1. Lucius ya. ya. dullar 1985 1. Lucius ya. ya. dullar 1985 1. Lucius ya.	116		53	Lietrie gracilie	Blazing-star; Slender Gayfeather
198				Liatris gracilis	
1919 56 Listins tenufolia var. tenufolia Roserub				·	
120					
Seminaria Semi					
1922 1938 Mikania cordifolia Florida Keys Hempweed, Florida Fey Hempvine					
Section Sect					
125 62 Palafoxia feayi Feay's Palafox 126 126 126 127 64 Phoebanthus grandiflorus Florida Fales Sunflower Golden-Aster Golden-Aster 128 65 Phioposis graminfolia var. latifolia Golden-Aster Golden					
Section					
Golden-Aster Gold					
Section					
128					
1929			1		
131 68 Pluchea foetida White or Marsh Fleabane; Stinking Camphor-weed 132 69 Pluchea odorata Sallmarsh Fleabane; Stinking Camphor-weed 133 70 Pluchea odorata Sallmarsh Fleabane; Shrubby Camphorweed 133 70 Pluchea odorata Sallmarsh Fleabane; Shrubby Camphorweed 133 70 Pluchea osea Godfreys Fleabane; Rosy Camphor-weed 134 71 Polymnia uvedalia Bear's-foot; Yellow Leafcup 136 72 Percoaution pyenostachyum Wand or Coastal Blackroot, Rabbit Tobacco 136 73 Pyrrhopeppus carolinianus Carolina False Dandelion 137 74 Senecio glabelius Butterweed; GoldenorGrass-leafRagwort; Gr. Groundsel 138 75 Solidago Istulosa Pinebarren Goldenrod 140 77 Solidago odora var. chapmanii Sweet Golden-rod 140 77 Solidago odora var. chapmanii Sweet Golden-rod 141 78 Vernoma gigantea Tall or Giant Ironweed 142 79 Vernoma gigantea Tall or Giant Ironweed 144 Avicenniaceae 1 Bagonia cuculista Horsenia; Spotta Beebalm 144 Avicenniaceae 1 Bagonia cuculista Horsenia; Spotta Beebalm 148 Begoniaceae 1 Bagonia cuculista Horsenia; Spotta Beebalm 148 Bedoniaceae 1 Bagonia cuculista Wax Begonia 148 Blechneae 1 Blechnum serviciata Netted or Dimorphic Chain Fern 149 2 Woodwardia areolata Netted or Dimorphic Chain Fern 150 3 Woodwardia areolata Netted or Dimorphic Chain Fern 151 15					
131 68 Pluchea longifolia Long-leaf Camphor-weed			1		
132 69 Pluchea odorata Saltmarsh Fleabane; Shrubby Camphorweed 133 70 Pluchea osea Godfrey's Fleabane; Rosy Camphorweed 134 71 Polymnia uvedalia 9ear's-foot; Yellow Laefcup 136 72 Plerocaulon pyronstachyum Wand or Coastal Blackroot; Rabbit Tobacco 136 73 Pyrhopappus carolinianus Carolina False Dandelion 137 74 Senecio glabellus Butterweed, Goldenor Grass-leafRagwort; Gr. Groundsel 138 75 Solidago Istulosa Pinebarren Goldenord 138 76 Solidago Istulosa Pinebarren Goldenord 139 76 Solidago Istulosa Pinebarren Goldenord 140 77 Solidago odora var. chapmanii Sweet Golden-rod 141 78 Verbesina virginica Frostweed; White Crownbeard 142 79 Vermonia gigantea Tall or Giant Torweed 144 Avicenniaceae 1 Monarda punctata Horsemint; Spotud Beebalm 145 Begoniaceae 1 Begonia cucullata Wax Begonia 146 Betulaceae 1 Carpinus caroliniana American Hornbeam; Bluebeech; Musclewood 147 Bignoniaceae 1 Carpinus caroliniana American Hornbeam; Bluebeech; Musclewood 148 Blechnaceae 1 Carpinus caroliniana American Hornbeam; Bluebeech; Musclewood 150 Brassicaceae 1 Carpinus activation Virginia Chain Fern Virginia C					
134			1		
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137				1,7	
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141			75		
141					
142				Solidago odora var. chapmanii	
Avicenniaceae	141		78	Verbesina virginica	Frostweed; White Crownbeard
Avicenniaceae	142		79	Vernonia gigantea	Tall or Giant Ironweed
Begoniaceae	143		80	Youngia japonica	
Betulaceae	144	Avicenniaceae	1	Monarda punctata	Horsemint; Spotted Beebalm
147 Bignoniaceae	145	Begoniaceae	1	Begonia cucullata	
148 Blechnaceae	146	Betulaceae	1	Carpinus caroliniana	American Hornbeam; Bluebeech; Musclewood
148 Blechnaceae	147	Bignoniaceae	1	Campsis radicans	Trumpet-vine; Trumpet Creeper
149	148		1		
150 Brassicaceae 1 Cardamine bulbosa Spring-cress; Bulbous Bitter-cress	149		2	Woodwardia areolata	
Brassicaceae			3	Woodwardia virginica	Virginia Chain Fern
152 2 Lepidium virginicum Poorman's Pepper; Poorman's Pepper-wort 153 3 Nasturium microphyllum One-row Water-cress 154 Bromeliaceae 1 Tillandsia bartramii Wild Pine; Bartram's Air Plant 155 2 Tillandsia fasciculata var. densispica Wild Pine; Giant Air Plant 156 3 Tillandsia recurvata Small Ball-Moss 157 4 Tillandsia simulata Wild Pine; Southern Needleleaf Air Plant 158 5 Tillandsia simulata Wild Pine; Southern Needleleaf Air Plant 159 6 Tillandsia usneoides Spanish Moss 160 7 Tillandsia utriculata Wild Pine; Air Plant 161 Burmanniaceae 1 Apteria aphylla Nodding Nixie 162 Cactaceae 1 Opuntia humifusa Prickly-pear Cactus; Devil's-tongue 163 2 Opuntia pusilla Cock's-spur Prickly-pear 164 Campanulaceae 1 Lobelia cardinalis Cardinal Flower 165 2 Lobelia feayana Bay Lobelia 166 3 Lobelia feayana Bay Lobelia 167 Cannaceae 1 Canna flaccida Golden or Yellow Canna; Bandana-of-the-Everglades <t< td=""><td></td><td>Brassicaceae</td><td>1</td><td></td><td></td></t<>		Brassicaceae	1		
153 Bromeliaceae					
154 Bromeliaceae					
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157				· ·	
1585Tillandsia simulataWild Pine; Air Plant1596Tillandsia usneoidesSpanish Moss1607Tillandsia utriculataWild Pine; Spreading Air Plant161Burmanniaceae1Apteria aphyllaNodding Nixie162Cactaceae1Opuntia humifusaPrickly-pear Cactus; Devil's-tongue1632Opuntia pusillaCock's-spur Prickly-pear164Campanulaceae1Lobelia cardinalisCardinal Flower1652Lobelia feayanaBay Lobelia1663Lobelia glandulosaGlandular or Glade Lobelia167Cannaceae1Canna flaccidaGolden or Yellow Canna; Bandana-of-the-Everglades1682Canna x generalisCommon Garden or Common Canna169Capparaceae1Polanisia tenuifolia170Caprifoliaceae1Lonicera sempervirensCoral Honeysuckle1712Sambucus canadensisElderberry; American Elder1723Viburnum nudumPossum Haw Viburnum; Possum Haw1734Viburnum obovatumSmall or Walter Viburnum; Black Haw174Caryophyllaceae1Drymaria cordataWest Indian Chickweed; West Indian Drymary1752Paronychia chartaceaPaper-like Nailwort1763Paronychia chartaceaPaper-like Nailwort1774Paronychia patulaPineland Nailwort1785Stipulicida setacea var. lacerataPineland Scaly-pink </td <td></td> <td></td> <td></td> <td></td> <td></td>					
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179 Celastraceae 1 Euonymus americanus American Strawberry-bush					
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180 Chenopodiaceae 1 Chenopodium ambrosioides Mexican Tea; American Wormseed				·	· · · · · · · · · · · · · · · · · · ·
	180	Chenopodiaceae	1	Chenopodium ambrosioides	Mexican Tea; American Wormseed

Section 1 Helsinthermum corymbosum Rockross Pine-barren Frostweed	181	Chrysobalanaceae	1	Licania michauxii	Gopher Apple; Licania
Basilian					
1848		Cistaceae		,	
Befall					
186					
1887					
188					
Bedmont Prinweed Piedmont Prince Piedmont Pr					
1991 Commelinaceae 1					
191		Camanalinasas			
1932 3		Commelinaceae			
1934					Day-flower
Convolvulaceae					
1956 2 Evolvulus senceus Creeping Morning-glores;Silky False-morning-glory 1968 3 Ipomoea condatortioba Morning-glory, Tevine 1979 4 Ipomoea pandurata Wild Potato Vine; Morning-glory; Man-of-the-earth 1988 5 Ipomoea sagitata Saltmarsh or Glade Morning-glory; Man-of-the-earth 2000 Comaceae 1 Cornus foemina Stilf Cornel; Stilf Cornel Dogwood; Swamp Dogwood Cucurbitaceae 1 Melothria pendula Creeping Cucumber; Guadeloupe-cucumber 2001 Cucurbitaceae 1 Melothria pendula Creeping Cucumber; Guadeloupe-cucumber 2002 Cupressaceae 1 Juniperus silicicola Southern Red Cedar 2003 Cyperaceae 1 Bulbostylis ciliatifolia Capillary Hair-sedge 2004 2 Bulbostylis ciliatifolia Capillary Hair-sedge 2005 3 Bulbostylis warei Ware's Hairsedge 2006 4 Carex atlata Broadwing Sedge 2007 5 Carex atlantica subsp. capillacea Broadwing Sedge 2008 6 Carex bromoides Broadwing Sedge 2009 7 Carex atlantica subsp. capillacea Howe or Prickty Bog Sedge 2009 7 Carex chapmannii Chapman's Sedge 2009 7 Carex floridana Southern Black-edge Sedge 2009	_	0 1 1			
1966 3		Convolvulaceae			
1978					
198					
199					
Comaceae					Saltmarsh or Glade Morning-glory
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202 Cupresaceae 1 Juniperus silicicola Southern Red Cedar					
203 Cyperaceae					
205 3 Bulbostylis ciliatifolia Capillary Hair-sedge 206 4 Carex altata Broadwing Sedge 207 5 Carex atlantica subsp. capillacea Howe or Prickly Bog Sedge 208 6 Carex bromoides 209 7 Carex comosa Brome-like Sedge 209 7 Carex comosa Bottle-brush or Bearded Sedge 210 8 Carex comosa Bottle-brush or Bearded Sedge 211 9 Carex floridana Southern Black-edge Sedge 212 10 Carex gigantea Large Sedge 213 11 Carex podfreyi Godfrey's Sedge 214 12 Carex godfreyi Godfrey's Sedge 215 13 Carex leptalea Bristly-stalk Sedge 216 14 Carex ongi Greenish-white Sedge 217 15 Carex lupuliformis Hop Sedge 218 16 17 Carex styloflexa Bent Sedge 219 17 Carex vexans Confusing or Florida Hammock Sedge 219 17 Carex vexans Confusing or Florida Hammock Sedge 220 18 Carex vexans Confusing or Florida Hammock Sedge 221 19 Carex vexans Baldwin Flatsedge 222 20 Oyperus compressus Poorland Flatsedge 223 21 Cyperus distinctus Marshland Flatsedge 224 22 Cyperus flatsecsen Yellow Flatsedge 225 23 Cyperus flatsecsen Yellow Flatsedge 226 27 Cyperus haspan Sheatted Flatsedge 227 25 Oyperus passan Sheatted Flatsedge 228 26 Cyperus passan Sheatted Flatsedge 229 27 Cyperus odoratus Rusty Flatsedge 230 28 Cyperus passans Sheatted Flatsedge 231 29 Cyperus nassani Nash's Flatsedge 232 27 Cyperus passans Sheatted Flatsedge 233 30 Oyperus protosus Rusty Flatsedge 234 32 Cyperus pumilus Low Flatsedge 235 33 Oyperus striposus Retorse or Pine-barre Flatsedge; Galingale 236 34 Oyperus striposus Flatsedge 237 Pale Sedge Manny-spike Flatsedge 238 39 Cyperus striposus Retorse or Pine-barre Flatsedge; Galingale 239 30 Sperus striposus Retorse or Pine-barre Flatsedge 230 Sperus striposus Retorse or Pine-barre Flatsedge 231 Sperus striposus Retorse or Pine-barre Flatsedge 232 Sperus striposus Straw-colored Flatsedge 233 Sperus striposus Retorse or Pine-barre Flatsedge 234 Sperus striposus Straw-colored Flatsedge 235 Saldwin's Spikerush 236 Spikerush Spikerush 237 Selocharis Equication Spikerush 238 Spikerush Spikerush					
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Carex atlantica subsp. capillacea				·	
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			38	Eleocharis quadrangulata	
242 40 Eleocharis vivipara Viviparous Spikerush	241				
	242		40	Eleocharis vivipara	Viviparous Spikerush

242	44	Timbriatulia autumnalia	Clandar Fimhr
243	41	Fimbristylis autumnalis	Slender Fimbry
244	42	Fimbristylis dichotoma	Tall or Annual or Woolly Fimbry
245	43	Fimbristylis puberula	Vahl's Hairy Fimbry
246	44	Fuirena breviseta	Saltmarsh Umbrella-sedge
247	45	Fuirena pumila	Dwarf Umbrella-sedge
248	46	Fuirena scirpoidea	Southern Umbrella-sedge
249	47	Kyllinga odorata	Fragrant Flatsedge
250	48	Kyllinga pumila	Thin-leaf Flatsedge
251	49	Lipocarpha maculata	American Lipocarpha
252	50	Rhynchospora caduca	Falling Beakrush; Falling Beaksedge
253	51	Rhynchospora careyana	Horned Beakrush
254	52	Rhynchospora cephalantha	Clustered Beakrush; Bunched Beaksedge
255	53	Rhynchospora ciliaris	Ciliate or Fringed Beakrush
256	54	Rhynchospora colorata	Starbrush White-topped Sedge; Star Rush
257	55	Rhynchospora corniculata	Horned-rush;Short-bristle Horned Beak(rush)(sedge)
258	56	Rhynchospora decurrens	Decurrent or Swamp-forest Beak(rush)(sedge)
259	57	Rhynchospora divergens	Spreading Beakrush; Spreading Beaksedge
260	58	Rhynchospora fascicularis	Fasciculate Beakrush; Fasciculate Beaksedge
261	59	Rhynchospora fernaldii	Fernald's Beakrush; Fernald's Beaksedge
262	60	Rhynchospora intermedia	Pinebarren Beakrush; Pinebarren Beaksedge
263	61	Rhynchospora inundata	Narrow-fruited Horned Beak(rush)(sedge)
264	62	Rhynchospora megalocarpa	Sandy-field Beaksedge
265	63	Rhynchospora microcarpa	Southern Beakrush; Southern Beaksedge
266	64	Rhynchospora microcephala	Capitate Beakrush
267	65	Rhynchospora miliacea	Millet Beakrush; Millet Beaksedge
268	66	Rhynchospora mixta	Mingled Beakrush; Mingled Beaksedge
269	67	Rhynchospora nitens	Short-beak Baldrush
270	68	Rhynchospora odorata	Fragrant Beakrush; Fragrant Beaksedge
271	69	Rhynchospora plumosa	Plumed Beakrush; Plumed Beaksedge
272	70	Rhynchospora rariflora	Few-flower Beakrush; Few-flower Beakrush
273	71	Scirpus cubensis	Cuban Bulrush
274	72	Scirpus cyperinus	Woolgrass; Cotton-grass Bulrush
275	73	Scirpus lineatus	Pendulous or Drooping Bulrush
276	74	Scirpus tabernaemontani	Soft-stem(med) Bulrush
277	75	Scleria oligantha	Little-head Nutrush
278	76	Scleria pauciflora	Few-flower Nutrush
279	77	Scleria reticularis	Netted or Torrey's Nutrush
280	78	Scleria triglomerata	Tall Nutgrass; Whip Nutrush
281 Cyrillaceae	1	Cyrilla parviflora	Swamp Titi
282 Davalliaceae		Nephrolepis exaltata	Boston Fern; Boston Swordfern
283 Droseraceae	1	Drosera brevifolia	Dwarf Sundew
284	2	Drosera capillaris	Pink Sundew
285 Ebenaceae	1	Diospyros virginiana	Common Persimmon
286 Empetraceae		Ceratiola ericoides	Florida Rosemary
287 Ericaceae	1	Agarista populifolia	
288	2	Befaria racemosa	Tarflower
289	3	Gaylussacia dumosa	Dwarf Huckleberry
290	4	Gaylussacia nana	Dangleberry; Creeping Huckleberry
291	5	Leucothoe axillaris	Coastal Dog-Hobble
292	6	Lyonia ferruginea	Rusty Lyonia; Rusty Staggerbush
293	7	Lyonia fruticosa	Coastal-plain Staggerbush
294	8	Lyonia ligustrina var. foliosiflora	Maleberry; He-huckleberry
295	9	Lyonia lucida	Fetterbush; Shinyleaf
296	10	Monotropa uniflora	One-flower Indian-pipe
297	11	Rhododendron viscosum	Swamp Honeysuckle; Northern Swamp Azelea
298	12	Vaccinium corymbosum	Highbush or Fuscous Blueberry
299	13	Vaccinium darrowii	Darrow's or Glaucous Blueberry
300	14	Vaccinium elliottii	
		Vaccinium myrsinites	Shiny Blueberry
	15		
301	15 16	Vaccinium stamineum	IDeerberry: Blueberry
301 302	16	Vaccinium stamineum Elephantopus carolinianus	Deerberry; Blueberry Carolina Elephant's-foot
301 302 303 Eriocaulacea	16 e 1	Elephantopus carolinianus	Carolina Elephant's-foot
301 302 303 Eriocaulaceae	16 e 1 2	Elephantopus carolinianus Elephantopus elatus	Carolina Elephant's-foot Florida ot Tall Elephant's-foot
301 302 303 Eriocaulacea 304 305	16 e 1 2 3	Elephantopus carolinianus Elephantopus elatus Eriocaulon decangulare	Carolina Elephant's-foot Florida ot Tall Elephant's-foot Ten-angle Pipewort
301 302 303 Eriocaulaceae	16 e 1 2	Elephantopus carolinianus Elephantopus elatus	Carolina Elephant's-foot Florida ot Tall Elephant's-foot

200		6	Lashnasaulan anglari	Englaria Baghuttan
308			Lachnocaulon engleri	Engler's Bogbutton
309			Syngonanthus flavidulus	Bantam-buttons; Yellow Hatpins
	Eryngium	1	Ptilimnium capillaceum	Hair-like Mock Bishop's-weed
	Euphorbiaceae		Acalypha gracilens	Three-seeded Mercury
312		2	Cnidoscolus stimulosus	Tread Softly; Stinging or Spurge Nettle; Finger-rot
313		3	Croton argyranthemus	Silver Croton
314			Crotonopsis linearis	Narrow-leaf Rushfoil
315		5	Phyllanthus caroliniensis subsp. caroliniensis	Carolina Leaf-flower
316		6	Stillingia sylvatica ssp. sylvatica	Queen's Delight
317		7	Tragia urens	Noseburn
	Fabaceae	1	Aeschynomene americana	American Joint-vetch; Shyleaf
319		2	Alysicarpus ovalifolius	False Moneywort
320			Amorpha herbacea	Lead Plant; Cluster-spike Indigo-bush
321		4	Apios americana	Groundnut; American Potato-bean
322		5	Chamaecrista fasciculata	Partridge Pea
323		6	Chamaecrista nictitans var. aspera	Wild Sensitive Plant; Sensitive Partridge-pea
324		7	Chamaecrista nictitans var.	Sensitive Partridge-pea
02 1		,	nictitans	<u> </u>
325		8	Chapmannia floridana	Florida Alicia
326		9	Crotalaria lanceolata	Lance-leaf Rattlebox
327		10	Crotalaria pallida var. obovata	Smooth Rattlebox
328		11	Crotalaria rotundifolia	Rabbit-bells; Prostrate Rattle-box
329		12	Dalea feayi	Feay's Prairie-clover
330		13	Dalea pinnata var. adenopoda	Florida Summer-farewell
331		14	Desmodium paniculatum	Marrow-leaf or Panicled Tick-trefoil
332		15	Desmodium triflorum	Three-flower Tick-trefoil
333		16	Desmodium viridiflorum	Wide-leaved Tick-trefoil
334		17	Erythrina herbacea	Coral Bean
335		18	Galactia elliottii	Elliott's Milk-pea
336		19	Galactia mollis	•
337		20	Galactia regularis	Eastern or Florida Milk-pea
338		21	Galactia volubilis	Downy Milk-pea
339		22	Indigofera caroliniana	Carolina Indigo
340		23	Indigofera hirsuta	Rough Hairy Indigo
341		24	Lespedeza hirta var. hirta	Hairy Bush-clover
342		25	Lupinus diffusus	Sky-blue or Oak-ridge Lupine
343			Macroptilium lathyroides	Wild Bush-bean
344		27	Rhynchosia cinerea	Snout-Pea
345		28	Schrankia microphylla var. floridana	
346		29	Sesbania vesicaria	Bladderpod; Bag-pod Rattle-bush;Bag-pod River Hemp
347		30	Tephrosia chrysophylla	Scurf Hoary-pea
348		31	Tephrosia florida	Florida Hoary-pea
349			Tephrosia hispidula	Spreading Hoary-pea
350			Tephrosia spicata	Spiked Hoary-pea
351		34	Vicia acutifolia	Four-leaf Vetch
	Fagaceae	1	Quercus chapmanii	Chapman's Oak
353		2	Quercus geminata	Sand or Scrub Live Oak
354		3	Quercus hemispherica	Upland Laurel Oak
355		4	Quercus incana	Bluejack or Gray Oak
356		5	Quercus inopina	Scrub Oak
357		6	Quercus laevis	Turkey Oak
358		7	Quercus laurifolia	Laurel Oak; Diamond (-leaf) Oak
359		8	Quercus minima	Dwarf Live Oak
360		9	Quercus myrtifolia	Myrtle Oak
361		10	Quercus nigra	Water Oak
362		11	Quercus pumila	Runn(ing)(er) Oak
363		12	Quercus virginiana	Virginia Live Oak
364	Gentianaceae	1	Sabatia brevifolia	White Sabatia; Short-leaf Rose-gentian
365	Jonnandodae	2	Sabatia calycina	Coast(al) Rose-gentian
366		3	Sabatia difformis	Lance-leaf Rose-gentian
367		4	Sabatia grandiflora	Large-flower Rose-gentian
	Geraniaceae	1	Geranium carolinianum	Carolina Cranesbill
550	Coramaceae	- 1	Coramum caroninanum	Outomia Otatiospiii

Alloragecene	369	Haemodoraceae	1	Lachnanthes caroliniana	Bloodroot; Carolina Redroot
2					Bloodroot, Carolina recaroot
372 Hydorphiaeae 1 Ljududnhar styraciflus Sweetgum 373 Hydrorlaeae 1 Hydroles archyrobosa Sky-flower, Corymb False-fiddleleaf 374 Hydrorlardeaea 1 Hydroles archyrobosa 375 2 Limnoblum spongia Friog-Sbit, American Spongeplant 376 3 Valisneria americana Tape-grass, American Eel-grass, Wild-celery 378 3 Valisneria americana Tape-grass, American Eel-grass, Wild-celery 378 3 Valisneria americana Tape-grass, American Eel-grass, Wild-celery 379 3 Hypericum typericum distriction Round-op St. John's wort 380 4 Hypericum markenicularum Sandweed or Swampy or Peel-bark St. John's-wort 381 5 Hypericum typericularum Myrite-leaft St. John's-wort 382 6 Hypericum typericularum Myrite-leaft St. John's-wort 383 7 Hypericum typericularum Altanic St. John's-wort 384 8 Hypericum typericularum Altanic St. John's-wort St. John's-wort 385 <t< td=""><td></td><td>. raioragacoac</td><td>-</td><td>·</td><td>Comb-leaf Mermaid-weed</td></t<>		. raioragacoac	-	·	Comb-leaf Mermaid-weed
1		Hamamelidaceae			
1		Hydophyllaceae	1		ŭ
377 Hypericaceae 1 Hypericum of Limosum Coastal-plain St. John's-wort			1		
Phypericanceae 1	375		2	Limnobium spongia	Frog's-bit; American Spongeplant
2	376		3	Vallisneria americana	Tape-grass; American Eel-grass; Wild-celery
389		Hypericaceae	1		
380 4 Hypericum fasciculatum Sandweed or Swampy or Peel-bark St. John's-wort 381 5 Hypericum hypericums St. Andrew's Cross; Edison's St. John's-wort 382 6 Hypericum mutilum Dwarf or Slender St. John's-wort 383 7 Hypericum myttrollium Mytrile-lagfist. John's-wort 384 8 Hypericum reductum Mytrile-lagfist. John's-wort Mytrile-lagfist. John's-wort Mytrile-lagfist. John's-wort Mytrile-lagfist. John's-wort St. John's					
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387 Hypoxidaceae 1 History His					
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1931 2 Nemastylis Indidana Fall-Howering Ixia; F-flw, Pleatleaf			-		·
393		maaccac			
Sisyrinchium xerophyllum White Sand or Jeweled Blue-eyed Grass				,	
Soetaceae					
Juglandaceae 1 Carya aquatica Water Hickory		Isoetaceae		, , ,	
396					
Juncaceae					
Juncaceae	397		3	Carya glabra	Pignut Hickory
400 3 Juncus effusus subsp. solutus Soft or Lamp Rush 401 4 Juncus elliotiti Bog Rush 402 5 Juncus marginatus var. biflorus Shore or Grass-leaf Rush 403 6 Juncus marginatus var. biflorus Large-headed or Big-headed Rush 404 7 Juncus polycephalus Many-headed Rush 405 8 Juncus scippoides Needle-pod Rush 406 9 Juncus scippoides Needle-pod Rush 407 Lamiaceae 1 Dicerandra frutescens 408 2 Hyptis alata Musky Mint; Cluster Bushmint 409 3 Hyptis mutabilis Tropical Bushmint 410 4 Lycopus rubellus Taper-leaf Water Hoarhound 411 5 Piloblephis rigida Wild Pennyroyal 412 6 Salvia lyrata Lyre-leaved Sage 413 7 Scutellaria integrifolia Skullcap 414 8 Soutellaria integrifolia Skullcap 415 9 T		Juncaceae	1		
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402	400		3	Juncus effusus subsp. solutus	
403 404 7 Juncus megacephalus 405 8 Juncus repens Lesser Creeping Rush 406 99 Juncus scirpoides Needle-pod Rush 407 408 409 Lamiaceae 1 Dicerandra frutescens 409 409 3 Hyptis mutabilis 410 4 Lycopus rubellus 411 5 Piloblephis rigida 411 411 5 Piloblephis rigida 411 412 6 Salvia lyrata 413 7 Scutellaria arenicola 414 8 Scutellaria integrifolia 415 9 Teucrium canadense 416 410 411 411 5 Pilotostema dichotomum 415 417 418 418 419 420 3 Persea borbonia var. borbonia 419 420 420 3 Persea borbonia var. humilis 420 421 421 421 432 444 453 45 465 465 465 465 465 47 47 47 47 47 47 486 486 497 498 498 498 498 498 498 498 498 498 498			4	Juncus elliottii	
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432 3 Mitreola sessilifolia Miterwort; Swamp Hornpod		Loganiaceae		·	
433 August 4 Polypremum procumbens Rustweed; Juniper-leaf					
	433		4	Polypremum procumbens	Rustweed; Juniper-leaf

434	Loranthaceae	1	Phoradendron leucarpum	Oak Mistletoe
	Lythraceae	1	Cuphea carthagenensis	Columbia Waxweed
436	Lytinaccac	2	Lythrum alatum var. lanceolatum	Wing(ed)(-angle) Loosestrife
437		3	Rotala ramosior	Lowland Toothcup
	Magnoliaceae	1	Magnolia grandiflora	Southern or Large-flower Magnolia
439	iviagrioliaceae		Magnolia yirginiana	Sweet Bay; Sweetbay Magnolia
	Mahraasa	1		
	Malvaceae		Hibiscus coccineus	Scarlet Rosemallow
441		2	Hibiscus grandiflorus	Swamp Hibiscus; Swamp Rose-mallow
442		3	Kosteletzkya virginica	Virginia Saltmarsh Mallow; Virginia Fen-rose
443		4	Pavonia spinifex	Yellow Hibuscus; Barb-fruit Swamp-mallow
444		5	Urena lobata	Caesar-weed
	Marantaceae	1	Thalia geniculata	Fire or Alligator Flag
	Melastomataceae	1	Rhexia cubensis	West Indi(an)(es) Meadow-beauty
447		2	Rhexia mariana	Pale or Maryland Meadow-beauty
448		3	Rhexia nashii	Nash's Meadow-beauty
449		4	Rhexia nuttallii	Nuttall's Meadow-beauty
450		5	Rhexia petiolata	Ciliate Meadow-beauty
451	Meliaceae	1	Melia azedarach	Chinaberry; Chineseberry
452	Moraceae	1	Broussonetia papyrifera	Paper-Mulberry
453		2	Morus rubra	Red Mulberry
	Myricaceae	1	Myrica cerifera	Wax Myrtle; Southern Bayberry
	Myrsinaceae	1	Ardisia escallonioides	Island Marlberry
456	Wyroniacoac	2	Myrsine floridana	Guiana Rapanea; Guiana Myrsine; Guiana Colicwood
	Nymphaeaceae	1	Nelumbo lutea	Lotus Lily; American Lotus; Water Chestnut
458	Trymphaeaceae	2	Nuphar lutea subsp. advena	Spatter-dock; Yellow Pond-lily
459		3	Nymphaea odorata	White or Fragrant Waterlily; Alligator Bonnet
	Nyssaceae	1	Nyssa sylvatica var. biflora	Swamp Black or Sour Gum; Swamp Tupelo
	,			
461	Olacaceae	1	Ximenia americana	Tallowwood; Hog Plum
462	Oleaceae	1	Chionanthus pygmaeus	Pigmy Fringe Tree
463		2	Chionanthus virginicus	White Fringe Tree
464		3	Fraxinus caroliniana	Carolina or Water or Pop Ash
465		4	Fraxinus pennsylvanica	Red or Green Ash
466		5	Osmanthus americanus	Wild Olive; Devil-wood
467		6	Osmanthus megacarpus	Florida Wild Olive
468	Onagraceae	1	Ludwigia alata	Winged Seedbox; Winged Primrose-willow
469		2	Ludwigia arcuata	Piedmont Seedbox; Piedmont Primrose-willow
470		3	Ludwigia curtissii	Curtiss' Seedbox; Curtiss' Primrose-willow
471		4	Ludwigia erecta	Yerba de Jicotea
472		5	Ludwigia leptocarpa	River Seedbox; River Primrose-willow
473		6	Ludwigia linearis	Narrow-leaf Seedbox; Narrow-leaf Primrose-willow
474		7	Ludwigia maritima	Seaside Primrose-willow; Seaside Seedbox
475		8	Ludwigia microcarpa	Small-fruit Seedbox; Small-fruit Primrose-willow
476		9	Ludwigia octovalvis	Mexican Seedbox; Mexican Primrose-willow
477		10	Ludwigia palustris	Swamp Primrose; Marsh Primrose-willow
478			Ludwigia peruviana	Peruvian Primrose-willow
479		12	Ludwigia pilosa	Hairy Seedbox; Hairy Primrose-willow
480		13	Ludwigia repens	Water Primrose; Creeping Seedbox
481		14	Ludwigia suffruticosa	Shrubby Seedbox; Shrubby Primrose-willow
482		15	Oenothera laciniata	Cut-leaved Evening Primrose
483	Ophioglossaceae	1	Ophioglossum	Adder's Tonge Fern
484	Orchidaceae	1	Beadlea cranichoides	Tropical forest Ladies'-tresses
485	Oroniuaceae	2	Encyclia tampensis	Tampa Butterfly Orchid
486		3	, ,	Green-fly Orchid
			Epidendrum conopseum	
487		4	Habenaria floribunda	Toothed Habenaria; Tooth-petal False Rein Orchid
488		5	Platanthera flava	Gypsy-spikes; Pale Green Orchid
489		6	Ponthieva racemosa	Hairy Shadow Witch
490		7	Pteroglossaspis ecristata	Wild Coco; Giant Orchid
491		8	Spiranthes odorata	Fragrant Ladies'-tresses
492	Osmundaceae	1	Osmunda cinnamomea	Cinnamon Fern
493		2	Osmunda regalis var. spectabilis	Royal Fern
494	Oxalidaceae	1	Oxalis corniculata	Lady's Sorrel; Creeping or Yellow Wood Sorrel
	- · ·		Petiveria alliacea	Carlia Cuinaa han Waad
495	Phytolaccaceae	1	reliveria alliacea	Garlic Guinea-hen Weed

497		3	Phytolacca rigida	Florida Pokeweed
498			Rivina humilis	Rouge Plant
-	Pinaceae		Pinus clausa	Sand Pine
500	i illaceae		Pinus elliottii	Slash Pine
501			Pinus palustris	Longleaf Pine
	Piperaceae		Peperomia humilis	Terrestrial Peperomia
	Plantaginaceae		Plantago virginica	Southern or Pale-seed Plantain
504	Poaceae		Amphicarpum muhlenbergianum	Little Blue Maidencane; Perennial Goobergrass
505	ruaceae		Andropogon brachystachyus	Short-spike Bluestem
506			Andropogon floridanus	Florida Bluestem
507				Big Chalky Bluestem
508			Andropogon glomeratus var. hirsutior	Hairy Bushy Bluestem
509			Andropogon glomeratus var. niisutioi Andropogon glomeratus var. pumilus	Big Bushy Bluestem
				Elliott's Bluestem
510			Andropogon gyrans var. gyrans	
511			Andropogon ternarius var. cabanisii	Silver Bluestem
512			Andropogon virginicus var. decipiens	Broomsedge
513			Andropogon virginicus var. glaucus	Little Chalky Bluestem
514			Andropogon virginicus var. virginicus	Broomsedge
515			Aristida beyrichiana	Wiregrass; Pineland Threeawn
516			Aristida gyrans	Corkscrew Three awn
517			Aristida palustris	Long-leaf Three-awn Grass
518			Aristida patula	Tall Threeawn; Tall Wiregrass
519			Aristida purpurascens var. purpurascens	
520			Aristida spiciformis	Bottlebrush or Pinebarren Threeawn
521			Axonopus fissifolius	Common or Southern Carpetgrass
522			Axonopus furcatus	Big Carpetgrass
523			Cenchrus echinatus	Southern Sandspur
524			Cenchrus incertus	Coast Sandspur
525			Chasmanthium laxum	Spike Chasmanthium; Slender Spikegrass
526			Chasmanthium nitidum	Shiny Chasmanthium; Shiny Spikegrass
527			Chasmanthium sessiliflorum	Longleaf Chasmanthium; Longleaf Spikegrass
528			Dichanthelium aciculare	Needle-leaf Witchgrass; Panic Grass
529			Dichanthelium commutatum	Variable Witchgrass; Panic Grass
530			Dichanthelium dichotomum	Cypress Witchgrass; Panic Grass
531			Dichanthelium ensifolium var. breve	Panic Grass
532			Dichanthelium ensifolium var. ensifolium	
533		30	Dichanthelium ensifolium var. unciphyllum	Panic Grass
534		31	Dichanthelium erectifolium	Erect-leaf Witchgrass
535		32	Dichanthelium laxiflorum	Lax-flower Witchgrass; Panic Grass
536		33	Dichanthelium leucothrix	Panic Grass
537		34	Dichanthelium ovale	Panic Grass; Egg-leaf Witchgrass
538			Dichanthelium portoricense	Hemlock Witchgrass
539		36	Dichanthelium scabriusculum	Woolly Panic Grass
540			Dichanthelium strigosum var.	Panic Grass
<u></u>			glabrescens	
541			Digitaria ciliaris	Southern Crabgrass
542		39	Echinochloa walteri	Coast(al) Cockspur
543			Eleusine indica	India Goosegrass
544		41	Eragrostis atrovirens	Thalia Lovegrass
545		42	Eragrostis elliottii	Elliott('s) Lovegrass
546		43	Eragrostis spectabilis	Purple Lovegrass; Petticoat Climber
547			Eragrostis virginica	Coastal or Meadow Lovegrass
548			Eustachys glauca	Saltmarsh Fingergrass
549			Eustachys petraea	Pinewoods Fingergrass
550			Gymnopogon chapmanianus	Chapman's Skeletongrass
551		48	Imperata brasiliensis	Cogongrass; Brazilian Satintail
552		49	Leersia hexandra	Southern or Clubhead Cutgrass
553		50	Leersia virginica	White Grass
554			Muhlenbergia capillaris var. filpes	Long-awn Muhly
555		52	Oplismenus setarius	Wood(s)grass; Short-leaf Basketgrass
556			Panicum anceps	Beaked Panicum; Beaked Panic Grass
557			Panicum hemitomon	Maidencane
558			Panicum hians	Gaping Panic Grass
559			Panicum longifolium	Panic Grass
			<u> </u>	

560		57	Danieum ranana	Torpedo Grass
560		57	Panicum repens Panicum rigidulum	
561		58		Redtop Panicum; Redtop Panic Grass
562		59	Panicum tenerum	Bluejoint or Southeastern Panicum
563		60	Panicum verrucosum	Warty Panicum; Warty Panic Grass
564		61	Panicum virgatum	Switchgrass; Wand-shape Panicum
565		62	Paspalum conjugatum	Sour Paspalum; Sour Crowngrass
566		63	Paspalum floridanum	Florida or Giant Paspalum; Florida Crowngrass
567		64	Paspalum notatum var. saurae	Bahiagrass
568		65	Paspalum praecox	Early Paspalum; Early Crowngrass
569		66	Paspalum setaceum	Thin Paspalum, Slender Crowngrass
570		67	Paspalum urvillei	Vaseygrass
571		68	Phanopyrum gymnocarpon	Savannah Panicum; Savannah Panic Grass
572		69	Pharus lappulaceus	Creeping Leafstalkgrass
573		70	Piptochaetium avenaceum	Blackseed Needle Grass
		71	•	Red Natalgrass
574			Rhynchelytrum repens	ŭ
575		72	Saccharum giganteum	Sugarcane Plumegrass
576		73	Sacciolepis indica	India Cupscale; Glenwood Grass
577		74	Sacciolepis striata	American Cupscale
578		75	Schizachyrium rhizomatum	Florida Bluestem
579		76	Schizachyrium sanguineum	Crimson False Bluestem
580		77	Schizachyrium stoloniferum	Creeping Bluestem
581		78	Setaria geniculata	Knotroot Foxtail; Knotroot Bristle Grass
582		79	Sorghastrum secundum	Lopsided Indiangrass
583		80	Spartina bakeri	Sand or Bunch Cordgrass
584		81	Stipa avencioides	Florida Needlegrass
585		82	Tridens flavus var. flavus	Tall Redtop; Purpletop; Purpletop Triends
			Triplasis americana	
586		83		Perennial Sandgrass
587		84	Tripsacum dactyloides	Eastern Gamagrass; Eastern Mock Grama
588		85	Urochloa mutica	Paragrass
	Polygalaceae	1	Polygala cruciata	Cross-leaf Milkwort; Drumheads
590		2	Polygala lewtonii	
591		3	Polygala lutea	Wild Batchelor's Button; Orange Milkwort
592		4	Polygala nana	Wild Batchelor's Button; Dwarf Milkwort
593		5	Polygala polygama	Jointweed; Racemed Milkwort
594		6	Polygala rugelii	Yellow Batchelor's Button; Yellow Milkwort
595		7	Polygala setacea	Coastal-plain Milkwort
596	Polygonaceae	1	Eriogonum longifolium var. gnaphalifolium	Scrub Buckwheat
597		2	Eriogonum tomentosum	Wild Buckwheat
598		3	Polygonella gracilis	Wireweed; Tall Jointweed
599		4	Polygonella polygama var. polygama	Jointweed; October-flower
600		5	Polygonella robusta	Sandhill Wireweed; Large-flower Jointweed
601			Polygonum densiflorum	Dense-flower Smartweed; Dense-flower Knotweed
		6		
602		7	Polygonum hirsutum	Hairy Smartweed
603			Polygonum hydropiperoides	Mild or Swamp Water-pepper; Swamp Smartweed
604		9	Polygonum punctatum	Dotted Smartweed
605		10	Rumex hastatulus	Hastate-leaved Dock; Heart-wing Sorrel
	Polypodiaceae	1	Campyloneurum phyllitidis	Long Strap Fern
607		2	Pecluma plumula	Plumy Polypody
608		3	Pecluma ptilodon var. caespitosa	Comb Polypody
609		4	Phlebodium aureum	Golden Polypody
610		5	Polypodium polypodioides var. michauxianum	Resurrection Fern
611	Pontederiaceae	1	Eichhornia crassipes	Common Water Hyacinth
612		2	Pontederia cordata	Pickerelweed
	Primulaceae	1	Samolus valerandi subsp. parviflorus	Water or Pineland Pimpernel; Seaside Brookweed
614	Psilotaceae	1	Psilotum nudum	Whisk Fern
615	Pteridaceae	1	Pityrogramma trifoliata	Goldenrod or Split-pinna Fern
	i iciiualeae	2		
616	Danungulaasa		Pteridium aquilinum var. latiusculum	Bracken Fern
617	Ranunculaceae	1	Clematis catesbyana	Virgin's Bower; Satin-curls
618	5.	2	Clematis crispa	Swamp Leather Flower
619	Rhamnaceae	1	Berchemia scandens	Rattan Vine; Alabama Supple-jack
620		2	Rhamnus caroliniana	Carolina Buckthorn
621		3	Sageretia minutiflora	Small-flower Mock Buckthorn; Sagaretia
622	Rosaceae	1	Crataegus lepida	Scrub Hawthorn
022				

623		2	Prunus caroliniana	Carolina Laurel Cherry
624		3	Prunus geniculata	Scrub Plum
625		4	Prunus serotina var. serotina	Black or Wild Cherry
626		5	Prunus umbellata	Flatwoods or Hog Plum
627		6	Pyrus arbutifolia	Red Chokeberry
628		7	Rubus argutus	Highbush Blueberry; Serrate-leaf Blackberry
629		8	Rubus betulifolius	Blackberry
630		9	Rubus cuneifolius	Sand Blackberry
631		10	Rubus trivialis	Southern Dewberry
632	Rubiaceae	1	Cephalanthus occidentalis	Common Buttonbush
633		2	Chiococca alba	Snowberry; West Indies Milkberry
634		3	Diodia teres	Poor Joe; Rough Button-weed
635		4	Diodia virginiana	Viginia Buttonweed
636		5	Galium aparine	Goose Grass; Spring Cleavers; Catchweed Bedstraw
637		6	Galium hispidulum	Coastal Bedstraw
638		7	Galium pilosum	Hairy Bedstraw
639		8	Galium tinctorium	Stiff Marsh Bedstraw
640		9	Galium uniflorum	One-flower Bedstraw
641		10	Hamelia patens	Firebush; Scarletbush
642		11	Hedyotis procumbens	Innocence; Round-leaf Bluet
643 644		12	Hedyotis uniflora	Flat-top Bluet; Clustered Bluet
		13	Mitchella repens	American Partridge Berry; Twinberry
645 646		14 15	Psychotria nervosa Psychotria sulzneri	Wild Coffee: Seminole Balsamo Sulzner's Wild Coffee
647		16	Richardia brasiliensis	Tropical Mexican-clover
648		17	Richardia scabra	Rough Mexican-clover
649	Rutaceae	1	Citrus aurantium	Sour Orange
650	Nulaceae	2	Zanthoxylum clava-herculis	Hercules'-club; Prickly Ash
651		3	Zanthoxylum fagara	Wild Lime; Lime Prickly-ash
652	Salicaceae	1	Salix caroliniana	Carolina or Coastal Plain Willow
653	Sancaceae	2	Salix floridana	Florida Willow
654	Salviniaceae	1	Azolla caroliniana	Carolina Mosquito Fern
655	Carvillaceae	2	Salvinia minima	Water Sprangles
656	Sapindaceae	1	Sapindus saponaria	Wing-leaf Soapberry; False Dogwood
657	Sapotaceae	1	Bumelia reclinata	Florida Bumelia; Florida Bully
658		2	Bumelia tenax	Tough Bumelia; Tough Buckthorn
659	Saururaceae	1	Saururus cernuus	Lizard's-tail
660	Saxifragaceae	1	Decumaria barbara	Cowitch-vine; Woodvamp
661	Ü	2	Itea virginica	Virginia Willow; Virginia Sweetspire
662	Schizaeaceae	1	Lygodium japonicum	Japanese Climbing Fern
663	Scrophulariaceae	1	Agalinis fasciculata	Beach False-foxglove
664		2	Agalinis linifolia	Flax-leaf False-foxglove
665		3	Bacopa caroliniana	Blue Hyssop; Carolina or Blue Water-hyssop
666		4	Bacopa monnieri	Coastal Water-hyssop
667		5	Buchnera americana	American Blueheart(s)
668		6	Gratiola hispida	Rough Hedge-hyssop
669		7	Gratiola pilosa	Shaggy Hedge-hyssop
670		8	Gratiola ramosa	Branching Hedge-hyssop
671		9	Gratiola virginiana	Round-fruit Hedge-hyssop
672		10	Linaria canadensis	Blue or Oldfield Toadflax
673		11	Linaria floridana	Florida Toadflax
674		12	Lindernia anagallidea	False-pimpernel
675		13	Lindernia grandiflora	Savannah False-pimpernel
676		14	Mecardonia acuminata	Purple Mecardonia; Purple Axil-flower
677		15	Micranthemum umbrosum	Shade Mudflower
678		16	Penstemon multiflorus	
679		17	Scoparia dulcis	Sweet Broom; Licorice Weed
680	0 1	18	Seymeria pectinata	Piedmont Seymeria
681	Selaginellaceae	1	Selaginella apoda	Meadow Spikemoss
682	Carilana	2	Selaginella arenicola	Sand Spikemoss
683	Smilacaceae	1	Smilax auriculata	Ear-leaf Greenbrier; Cathrier
684		2	Smilax bona-nox	Saw Greenbrier; Cathrier
685		3	Smilax glauca	WildSarsaparilla;Glaucous(-leaf)Greenbrier;Catbrie
686	1	4	Smilax laurifolia	Catbrier; Bamboo-vine; Laurel(-leaf) Greenbrier

687	I	F	Cmiley numile	Coronnarilla Vina Compli Cronnbrian Woolly Cat brian
		5	Smilax pumila Smilax smallii	SarsaparillaVine;Small Greenbrier;Woolly Cat-brier
688		6		Jackson Vine; Lance-leaf Greenbrier
689		7	Smilax tamnoides	Catbrier;Bristly/Halberd-leaf Greenbrier;Chinaroot
690	0.1	8	Smilax walteri	D: 10
691	Solanaceae	1	Capsicum annuum var. glabrisculum	Bird Pepper
692		2	Physalis angulata	Cut-leaf Ground-cherry
693		3	Physalis arenicola var. arenicola	Cypress-head Ground-cherry
694		4	Physalis pubescens	Low Hairy Ground-cherry
695		5	Solanum americanum	American Black or Common Nightshade
	Sphagaceae	1	Sphagnum spp.	Sphagnum Mosses
697	Styracaceae	1	Styrax americanus	Storax; American Snowbell
698	Taxodiaceae	1	Taxodium ascendens	Pond Cypress
699		2	Taxodium distichum	Bald Cypress
700	Theaceae	1	Gordonia lasianthus	Loblolly Bay
701	Thelypteridaceae	1	Macrothelypteris torresiana	Mariana Maiden Fern
702	Tiliaceae	1	Tilia americana	Basswood
703		2	Tilia caroliniana	Carolina Basswood
704	Turneraceae	1	Piriqueta caroliniana	Piriqueta; Carolina Stripeseed
705	Typhaceae	1	Typha domingensis	Southern Cattail
706		2	Typha latifolia	Common or Broad-leaf Cattail
707	Ulmaceae	1	Celtis laevigata	Hackberry; Sugarberry
708		2	Ulmus americana	American Elm
709	Urticaceae	1	Boehmeria cylindrica	Small-spike False-nettle; Bog Hemp
710		2	Parietaria praetermissa	Pellitory; Clustered Pellitory-of-the-wall
711		3	Pilea pumila	Canada Clearweed
712	Valerianaceae	1	Valeriana scandens	Florida Valerian
713	Verbenaceae	1	Callicarpa americana	Beautybush; American Beauty-berry
714		2	Verbena brasiliensis	Brazilian Vervain
715		3	Verbena scabra	Harsh Verbena; Sandpaper Vervain
716	Violaceae	1	Viola affinis	Leconte's Violet
717		2	Viola lanceolata	Bog White or Long-leaf or Lance-leaf Violet
718		3	Viola primulifolia	Swamp White or Primrose-lea(f)(ved) Violet
719		4	Viola septemloba	Southern Coast Violet
720		5	Viola sororia	Woolly or Hooded or Thicket Blue Violet; Florida V.
721	Vitaceae	1	Ampelopsis arborea	Pepper-vine
722	V110000	2	Parthenocissus quinquefolia	Virginia Creeper; Woodbine
723		3	Vitis aestivalis	Summer Grape
724		4	Vitis rotundifolia var. munsoniana	Southern Fox or Muscadine Grape; Muscadine
725		5	Vitis rotundifolia var. rotundifolia	Country of Madodalilo Orapo, Madodalilo
726	Vittariaceae	1	Vittaria lineata	Appalachian Shoestring Fern
727	Xyridaceae	1	Xyris ambigua	Coastal-plain Yellow-eyed Grass
728	лупиасеае	2	Xyris brevifolia	Short-leaf Yellow-eyed Grass
729		3	Xyris caroliniana	Carolina Yellow-eyed Grass
730		4	Xyris difformis var. floridana	Florida Bog Yellow-eyed Grass
731		5	Xyris elliottii	Elliott's Yellow-eyed Grass
732		6	Xyris fimbriata	Fringed Yellow-eyed Grass
733		7	Xyris flabelliformis	Savannah Yellow-eyed Grass
734		8	Xyris jupicai	Common or Richard's Yellow-eyed Grass
735		9	Xyris platylepis	Tall Yellow-eyed Grass
736		10	Xyris smalliana	Small's Yellow-eyed Grass

Appendix E: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-FAUNA SPECIES LIST INVERTEBRATES

From 1996 FGFWFC Listing- (**E**)ndangered, (**T**)hreatened, (**S**)pecies of (**S**)pecial (**C**)oncern (**Y**)ear-round, (**W**)inter, (**M**)igrant, (**B**)reeding

(X) confirmed siting

(L)and (S)tewardship (D)ivision, (U)delhoven, (L)orenz and Birdsall, (P)olk County

Total	(£)an	<u> (D)</u>		,,,	(U)delhoven, (L)orenz and Spe	cies	Status Presei				nce
Count	Common		Order		Genus Species	Common	Fed	State	Possible	Conf	Identified by
1	Insects	1	Coleoptera	1	Dytiscus spp.	Large Diving Beetle			Υ	Х	L-1996
2				2	Cicindela Lepida	Dainty Tiger Beetle			Y	Х	L-1996
3				3	Odontotaenius disjunctus	Horned Passalus			Υ	Х	L-1996
4				4		Soldier Beetle			Y	X	L-1996
5		2	Hemiptera	1	Lethocerus americanus	Giant Water Bug			Y	X	L-1996
6				2	Notonecta undulata	Backswimmer			Y	Χ	L-1996
7		3	Lepidoptera	1	Agraulis vanillae	Gulf Fritillary			Υ	Х	L-1996
8					Papilio polyxenes asteruis	Eastern Black Swallowtail			Υ	Х	L-1996
9					P. glaucus	Eastern Tiger Swallowtail			Y	Х	L-1996
10					P. cresphontes	Giant Swallowtail			Υ	Х	L-1996
11					Heliconius charitonius	Zebra Butterfly			Y	X	L-1996
12				6	Danaus gilippus berenize	Queen			Y	Х	L-1996
13		4	Hymenoptera	1	Ichneumonidae (Scambus spp.?)	Ichneumid wasps			Y	Х	L-1996
14					Xylocopa virginica	Black bee			Υ	Х	L-1996
15				3	Dasymutilla occidentalis	Cowkiller			Y	Χ	L-1996
16				4	Bombus spp.	Bumblebee			Υ	Χ	L-1996
17				5	Camponotus pennsylvanicus	Carpenter ant			Υ	Х	L-1996
18				6		Large headed ant			Y	Χ	L-1996
19		5	Diptera	1	Exoprospa spp.	Progressive beefly			Υ	Х	L-1996
20				2	Stratiomys spp.	(Aquatic larva)			Y	Х	L-1996
21		6	Orthoptera	1	Gryllotalpa hexadactyla	Mole Cricket			Υ	Χ	L-1996
22				2	Romalea microptera	Southeaster Lubber			Y	Х	L-1996
23				3	Tetrigidae	Pygmy Grasshoppers			Υ	Х	L-1996
24				4	Acrididae	Short-horned Grasshoppers			Υ	Χ	L-1996
25		7	Ephemeroptera	1	Callibaetis spp.	Mayflies			Υ	Х	L-1996
26		8	Trichoptera	1		Caddisflies			Υ	Х	L-1996
27	Damselflies	9	Odonata (Zygptera)		Nehalennia integricollis	<larva adult="" and=""></larva>			Υ	Х	L-1996
28				2	Ischnura hastata	<larva adult="" and=""></larva>			Υ		L-1996
29					Calopteryx maculata	<larva adult="" and=""></larva>			Υ	Χ	L-1996
30					Argia fumipennis	<adult></adult>			Y	Х	L-1996
31					Lestes vigilax	<larva adult="" and=""></larva>			Y	Χ	L-1996
32	Dragonflies	10	Odonata (Anisoptera)		Erythemis simplicicollis	<adult></adult>			Υ	Х	L-1996
33					Pachydiplax longipennis	<adult></adult>			Y	Х	L-1996
34					Celithemis amanda	<adult></adult>			Y	Х	L-1996
35				4	C. eponina	<adult></adult>			Y	Х	L-1996
36					Tramea carolina	<adult></adult>			Y	Х	L-1996
37				6	Erythrodiplax connata minuscala	<adult></adult>			Υ	Х	L-1996

38				7	Perithemis tenera	<adult></adult>	Υ	Х	L-1996
39				8	Epitheca cynosura	<larva adult="" and=""></larva>	Υ	Х	L-1996
40				9	Anax longipes	<larva adult="" and=""></larva>	Υ	Х	L-1996
41				1	Nasiaeschna pentacantha	<adult></adult>	Y	Х	L-1996
42				1	Didymops floridensis	<adult></adult>	Y	Х	L-1996
43				1 2	Gomphus minutus	<adult></adult>	Y	Х	L-1996
44				1	Hagenius brevistylus	<adult></adult>	Υ	Х	L-1996
45	Spiders and allies	1	Araneae	1	Peucetia viridans	Green Lynx Spider	Y	Х	L-1996
46				2	Phidippus audax	Daring Jumping Spider	Υ	Х	L-1996
47				3	P. spp.	Red Jumping Spider	Υ	Х	L-1996
48				4	Nephila clavipes	Golden Silk Spider	Υ	Х	L-1996
49				5	Argiope aurantia	Black and Yellow Argiope	Y	Х	L-1996
50				6	Dolomedes triton	Six-spotted Fishing Spider	Υ	Х	L-1996
51				7	Lycosa rabida	Rabid Wolf Spider	Υ	Х	L-1996
52				8	Tetragnatha elongata	Elongate Long-jawed Orb Weaver	Y	Х	L-1996
53				9	Lycosa spp.	Scrub Wolf Spider	Υ	Х	L-1996
54	Clams, Mussels	1	Corbiculidae	1	Corbicula manilensis	Asian Clam	Y	Х	L-1996
55		2	Unionidae	1	Elliptio buckleyi		Υ	Х	L-1996
56	Crayfish, Shrimp	1	Palaemonidae	1	Palaemonetes paludosus	Grass Shrimp	Y	Х	L-1996
57		2	Cambarida	1	Procambarus spp.	Crayfish	Y	Х	LSD-1993, L- 1996
58	Scuds, Sideswimm ers	1	Taltridae	1	Hyalela axteca	Common Amphipod	Y	Х	L-1996
59	Snails, Limpets	1	Ampulariidae	1	Pomacea spp.	Apple Snail	Y	Х	L-1996

Appendix F: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-**FAUNA SPECIES LIST FISH**

From 1996 FGFWFC Listing- (E)ndangered, (T)hreatened, (S)pecies of (S)pecial (C)oncern (Y)ear-round, (W)inter, (M)igrant, (B)reeding

(X) confirmed siting

(L)and (S)tewardship (D)ivision, (U)delhoven, (L)orenz and Birdsall, (P)olk County

		Species Names		Status			е	
	Family	Genus Species	Common	Fed	State	Possible	Confirmed	Identified by
1		Micropterus salmoides	Largemouth Bass			Y	Х	L-1996
2		Lepomis spp.	Sunfish			Y	Х	L-1996
3		Percina nigrofasciata	Blackbanded Darter			Υ	Х	L-1996
4		Notropis chalybaeus	Ironcolor Shiner			Υ	Х	L-1996
5		Gambusia affinis	Mosquitofish			Υ	Х	L-1996
6		Fundulus chrysotus	Golden Topminnow			Y	Х	L-1996

Appendix G: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-**FAUNA SPECIES LIST**

AVIFAUNA KEY:

From 1996 FGFWFC Listing- (E)ndangered, (T)hreatened, (S)pecies of (S)pecial (C)oncern

(Y)ear-round, (W)inter, (M)igrant, (B)reeding

(X) confirmed siting

(A) confirmed siting

(B) land (S) tewardship (D) ivision (U) delhoven. (L) orenz and Birdsall, (P) olk County, (A) dubon (S) ociety

Total		(L)alid (S)lewardsii	тр (D ,		, (L)orenz and Birdsall, (P)ol	nty, (A)c	lubon (S)ociety	Prese	nce
Count		Family		Genus Species	Common	State	Possible	Confirmed	Identified by
1	1	Gaviidae	1	Gavia immer	Common Loon	 	Y		LSD-1993
2	2	Podicipedidae	1	Podilymbus	Pied-billed Grebe		WMB	Х	P-1989, LSD-1993
3	3	Anhingidae	1	podiceps Anhinga anhinga	Anhinga		YW	X	P-1989, LSD-1993
4		Phalacrocoracidae	1	Phalacrocorax	Double-crested		Y	,	LSD-1993
				auritus	Cormorant				
5	5	Anatidae	1	Aix sponsa	Wood Duck		WB	Х	P-1989, LSD-1993
6			2	Anas acuta	Northern Pintail		Y		LSD-1993
7			3		American Wigeon		YW		LSD-1993
8			4	A. clypeata	Northern Shoveler		Υ		LSD-1993
9			5	A. crecca	Green-winged Teal		Υ		LSD-1993
10			6	A. discors	Blue-winged Teal		Υ		LSD-1993
11			7	A. fulvigula	Mottled Duck		YW		LSD-1993
12			8	A. platyrhynchos	Mallard		М		LSD-1993
13			9	A. rubripes	Black Duck		YW		LSD-1993
14			10	A. strepera	Gadwall		YW		LSD-1993
15			11	Aythya affinis	Lesser Scaup		Υ		LSD-1993
16			12	A. collaris	Ring-necked Duck		М		LSD-1993
17			13	A. valisineria	Canvasback		Υ		LSD-1993
18			14	Dendrocygna bicolor	Fulvous Whistling-duck		YW		LSD-1993
19			15	Mergus serrator	Red-breasted Merganser		W		LSD-1993
20	6	Pelecanidae	1	Pelecanus erythrorhynchos	White Pelican		Y		LSD-1993
21			2	P. occidentalis	Brown Pelican	SSC	Υ		LSD-1993
22	7	Laridae	1	Larus delawarensis	Ring-billed Gull		В		LSD-1993
23			2	Sterna antillarum	Least Tern	Т	Υ		LSD-1993
24			3	S. hirundo	Common Tern		W		LSD-1993
25	8	Ardeidae	1	Ardrea herodias	Great Blue Heron		М	Х	P-1989, LSD-1993
26			2	A. herodias	Great White Heron		Υ		LSD-1993
27			3	Botaurus lentiginosus	American Bittern		Y		LSD-1993
28			4	Bubulcus ibis	Cattle Egret		Υ		P-1989, LSD-1993
29			5	Butorides striatus	Green Backed Heron		Υ		LSD-1993
30			6	Casmerodius albus	Great Egret		YM	Х	P-1989, LSD-1993
31			7	Egretta rufescens	Reddish Egret	SSC	Υ		LSD-1993
32			8	E. thula	Snowy Egret	SSC	MW	Х	LSD-1993, L-1996
33			9	E. careulea	Little Blue Heron	SSC	В	Х	P-1989, LSD-1993
34			10	E. tricolor	Tricolored Heron	SSC	Υ	Х	P-1989, LSD-1993
35			11	Ixobrychus exilis	Least Bittern		MW		LSD-1993
36			12	Nycticorax nycticorax	Blk-crowned Night-heron		MW		LSD-1993
37			13	N. violaceus	Yel-crowned Night-heron		W		LSD-1993

38	9	Ciconiidae	1	Mycteria americana	Wood Stork	Е	E	Y		LSD-1993
39	10	Gruidae	1	Grus canadensis	Sandhill Crane		Т	YW		LSD-1993
40	11	Aramidae	1	Aramus guarauna	Limpkin		SSC	Υ		LSD-1993
41	12	Threskiornithidae	1	Ajaia ajaja	Roseate Spoonbill		SSC	М		LSD-1993
42			2	Eodcimus albus	White Ibis		SSC	BM	Х	LSD-1993, AS-1998
43			3	Plegadis falcinellus	Glossy Ibis			Y		LSD-1993
44	13	Rallidae	1	Coturnicops noveboracensis	Yellow Rail			MW		LSD-1993
45			2		American Coot			Y	X	P-1989, LSD-1993
46			3	Gallinula chloropus	Common Moorhen			Y		LSD-1993
47			4	Laterallus jamaicensis	Black Rail			YW		LSD-1993
48			5	Porphyrula martinica	Purple Gallinule			YB	Х	P-1989, LSD-1993
49			6		Sora			YWM		LSD-1993
50			7	Rallus elegans	King Rail			Υ		LSD-1993
51			8	R. limicola	Virginia Rail			Υ		LSD-1993
52			9	R. longirostris	Clapper Rail			Υ		LSD-1993
53	14	Charadriidae	1	Charadrius vociferus	Killdeer			Y		LSD-1993
54			2	Pluvialis squatarola	Black-bellied Plover			Y		LSD-1993
55	15	Scolopacidae	1	Actitis macularia	Spotted Sandpiper			Υ		LSD-1993
56			2	Gallinago gallinago	Common Snipe			W		LSD-1993
57			3	Scolopax minor	American Woodcock			YW		LSD-1993
58			4	Tringa flavipes	Lesser Yellowlegs			Υ		LSD-1993
59			5	T. melamoleuca	Greater Yellowlegs			YW		LSD-1993
60			6	T. solitaria	Solitary Sandpiper			MW		LSD-1993
61	16	Meleagrididae	1	Meleagris gallopavo	Wild Turkey			YB	Х	P-1989, LSD-1993, L- 1996
62	17	Phasianidae	1	Colinus virginianus	Northern Bobwhite Quail			YB	X	P-1989, LSD-1993
63	18	Accipitridae	1	Accipiter cooperii	Cooper's Hawk			Υ		LSD-1993
64			2	A. striatus	Sharp-shinned Hawk			Υ	Х	LSD-1993, AS-1998
65			3	Buteo brachyurus	Short-tailed Hawk			YWM		LSD-1993
66			4	B. jamaicensis	Red-tailed Hawk			Υ	Х	LSD-1993
67			5	B. lineatus	Red-shouldered Hawk			YWMB	Х	P-1989, LSD-1993, L- 1996
68			6		Broad-winged Hawk			MW		LSD-1993
69			7	Circus cyaneus	Northern Harrier			Y		LSD-1993
70			8	Elanoides forficatus	Swallow-tailed Kite			YW	Х	LSD-1993
71			9		Black-shouldered Kite			YB		LSD-1993
72				leucocephalus	Bald Eagle	Т	T	YWB	Х	P-1989, LSD-1993
73			11	Rostrhamus sociabilis	Snail Kite	Е	E	YWM		LSD-1993
74		Pandionidae	1	Pandion haliaetus	• •			YWB	X	P-1989, LSD-1993
75	20	Cathartidae	1	Cathartes aura	Turkey Vulture			YWB	Х	P-1989, LSD-1993
76			2	•••	Black Vulture			YWM	Х	P-1989, LSD-1993
77	21	Falconidae	1	columbarius	Merlin			WM		LSD-1993
78			2	F. peregrinus	Peregrine Falcon			YWM		LSD-1993

79			3	F. sparverius	American Kestrel			Υ		LSD-1993
80			4	F. sparverius paulus	SE. American Kestrel			Υ		LSD-1993
81			5	1	Crested Caracara	Т	Т	Υ		LSD-1993
82	22	Strigidae	1	Asio flammeus	Short-eared Owl			MW		LSD-1993
83			2	Athene cunicularia	Burrowing Owl		SSC	Υ		LSD-1993
84			3	Bubo virginianus	Great Horned Owl			Υ	Х	LSD-1993, L-1996
85			4	Otus asio	Eastern Screech-owl			YMB	Х	P-1989, LSD-1993
86			5	Strix varia	Barred Owl			Υ		LSD-1993
87	23	Tytoniidae	1	Tyto alba	Barn Owl			YW		LSD-1993
88	24	Columbidae	1	Columba livia	Rock Dove			MB	Х	P-1989, LSD-1993
89			2	Columbina passerina	Common Ground Dove			Υ		LSD-1993
90			3		White-winged Dove			YW		LSD-1993
91			4	Z. macroua	Mourning Dove			YMB	Х	P-1989, LSD-1993
92	25	Cuculidae	1	Coccyzus	Yellow-billed Cuckoo			YW		LSD-1993
93			2	americanus C.	Black-billed Cuckoo			MB		LSD-1993
93				erythropthalumus	Diack-billed Cuckoo			IVID		L3D-1993
94			3	C. minor	Mangrove Cuckoo			В		LSD-1993
95			4	Crotophaga ani	Smooth-billed Ani			YM		LSD-1993
96	26	Caprimulgidae	1	Caprimulgus carolinensis	Chuck-will's-widow			YB	Х	P-1989, LSD-1993
97			2	C. vociferus	Whip-poor-will			MW		LSD-1993
98			3	Chordeiles minor	Common Nighthawk			Υ		LSD-1993
99	27	Alcedinidae	1	Ceryle alcyon	Belted Kingfisher			YWM		LSD-1993
100		Trochilidae	1	Archilochus colubris	Ruby-throated Hummingbird			YWM		LSD-1993
101	29	Picidae	1	Campephilus principalis	Ivory-billed Woodpecker	E	Е	YWM		LSD-1993
102			2		Common Flicker			YWM		LSD-1993
103			3	Dryocopus pileatus	Pileated Woodpecker			YM	X	LSD-1993, AS-1998
104			4	Melanerpes carolinus	Red-bellied Woodpecker			YWB	X	P-1989, LSD-1993
105			5		Red-headed Woodpecker			YB	Х	P-1989, LSD-1993
106			6		Red-cockaded Woodpecker	Е	Т	YW		LSD-1993
107			7	•	Downy Woodpecker			YB	X	P-1989, LSD-1993
108			8		Hairy Woodpecker			Υ		LSD-1993
109			9		Yellow-bellied Sapsucker			YWM		LSD-1993
110		Apodidae	1	, ,	Chimney Swift			Υ		LSD-1993
111	31	Tyrannidae	1	Contopus virens	Eastern Wood-pewee			В		LSD-1993
112			2	Empidonax minimus	Least Flycatcher			YM		LSD-1993
113					Acadian Flycatcher			Υ		LSD-1993
114			4	-	Great Crested Flycatcher			YB	Х	P-1989, LSD-1993
115			5	Sayornis phoebe	Eastern Phoebe			MW	X	LSD-1993, AS-1998
116			6	Tyrannus dominicensis	Gray Kingbird			Υ		LSD-1993
117			7	T. forficatus	Scissor-tailed Flycatcher			Υ		LSD-1993
118			8	T. tyrannus	Eastern Kingbird			YB		LSD-1993
119		Motacillidae	1	•	Water Pipit			YW		LSD-1993
120	33	Hirundinidae	1	Hirundo pyrrhonota	Cliff Swallow			Y		LSD-1993

121			2	H. rustica	Barn Swallow			YW		LSD-1993
122			3	Progne subis	Purple Martin			WMB	Х	P-1989, LSD-1993
123			4	•	Bank Swallow	+		YW		LSD-1993
124			5		N. Rough-winged Swallow			W		LSD-1993
				serpennis						
125			6	Tachycineta bicolor	Tree Swallow			Υ		LSD-1993
126	34	Corvidae	1	Aphelocoma coerulescens	Scrub Jay	Т	Т	YMB	Χ	P-1989, LSD-1993
127			2	Corvus brachyrhynchos	American Crow			Υ	Х	LSD-1993
128			3		Fish Crow			YWB	Х	P-1989, LSD-1993
129			4	Cyanocitta cristata	Blue Jay			YB	Х	P-1989, LSD-1993
130	35	Paridae	1	Parus bicolor	Tufted Titmouse			YWB	Х	P-1989, LSD-1993
131			2	P. carolinensis	Carolina Chickadee			Υ		LSD-1993
132	36	Sittidae	1	Sitta pusilla	Brown-headed Nuthatch			Υ		LSD-1993
133	37	Troglodytidae	1	Cistothorus palustris	Marsh Wren		SSC	М		LSD-1993
134			2	C. platensis	Sedge Wren			Υ		LSD-1993
135			3	Troglodytes aedon	House Wren			YW		LSD-1993
136			4	T. ludovicianus	Carolina Wren			YB	Х	P-1989, LSD-1993
137	38	Sylviidae	1	Polioptila caerulea	Blue-gray Gnatcatcher			Υ	Х	LSD-1993, AS-1998
138			2	-	Ruby-crowned Kinglet			Υ		LSD-1993
139	39	Mimidae	1	Dumetella carolinensis	Gray Catbird	1		YW	Х	LSD-1993
140			2		Northern Mockingbird			YB	Х	P-1989, LSD-1993
141			3		Brown Thrasher			YB	Х	P-1989, LSD-1993
142	40	Turdidae	1	Catharus	Veery			YW		LSD-1993
143			2	fuscescens C. guttatus	Hermit Thrush			MW		LSD-1993
144			3	C. minimus	Gray-cheeked Thrush			Υ		LSD-1993
145			4	C. ustulatus	Swainson's Thrush			Υ		LSD-1993
146			5	Sialia sialis	Eastern Bluebird	1		YB	Х	P-1989, LSD-1993
147			6	Turdus migratorius		+		YW		LSD-1993
148	41	Bombycillidae	1	Bombycilla	Cedar Waxwing	1		Υ		LSD-1993
		-		cedrorum						
149	42	Laniidae	1	Lanius iudovicianus	Loggerhead Shrike			Υ		LSD-1993
150	43	Vireoniddae	1		Black-whiskered Vireo			Υ		LSD-1993
151			2	V. flavifrons	Yellow-throated Vireo			YW		LSD-1993
152			3	V. griseus	White-eyed Vireo			YWB	Х	P-1989, LSD-1993
153			4	V. olivaceus	Red-eyed Vireo			YWMB	Х	P-1989, LSD-1993
154			5	V. solitarius	Solitary Vireo			MW		LSD-1993
155	44	Parulidae	1	Dendroica caerulescens	Blk-throated Blue Warbler			MW		LSD-1993
156			2	D. coronata	Yellow-rumped Warbler	1		YW		LSD-1993
157			3	D. discolor	Prairie Warbler			YM		LSD-1993
158			4	D. discolor paludicola	Florida Prairie Warbler	1		YW		LSD-1993
159			5	D. dominica	Yellow-throated Warbler			YW		LSD-1993
160					Magnolia Warbler			М		LSD-1993
161			7	D. petechia	Yellow Warbler			W		LSD-1993
162			8	D. pinus	Pine Warbler	1		YM	Х	LSD-1993, AS-1998
163			9	D. plamarum	Palm Warbler			YW	X	LSD-1993, AS-1998
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164			10	D. striata	Blackpoll Warbler			MB	Х	LSD-1993
165			11	D. tigrina	Cape May Warbler			YWM	Х	LSD-1993
166			12	D. virens	Blk-throated Green Warbler			YWM		LSD-1993
167			13	Geothlypis trichas	Common Yellowthroat			YB	Х	P-1989, LSD-1993
168			14	Helmitheros vermivorus	Worm-eating Warbler			W		LSD-1993
169			15	Icteria virens	Yellow-breasted Chat			W		LSD-1993
170			16	Limnothlypis swainsonii	Swainson's Warbler			Y		LSD-1993
171				Mniotilta varia	Black-and-white Warbler			Y		LSD-1993
172			18	Oporonis agilis	Connecticut Warbler			Y		LSD-1993
173			19	O. formosus	Kentucky Warbler			Y		LSD-1993
174			20	Parula americana	Northern Parula			YB	Х	P-1989, LSD-1993
175			21	Protonotaria citrea	Prothonotary Warbler			Y		LSD-1993
176				Seiurus aurocapillus	Ovenbird			YWM		LSD-1993
177				S. motacilla	Louisiana Waterthrush			YWM		LSD-1993
178			24	S. noveboracensis	Northern Waterthrush			Y		LSD-1993
179			25	Setophaga ruticilla	American Redstart			YWM		LSD-1993
180			26	Vermivora celata	Orange-crowned Warbler			YW		LSD-1993
181			27	Wilsonia citrina	Hooded Warbler			Y		LSD-1993
182	45	Icteridae	1	Agelaius phoeniceus	Redwing Blackbird			YWM	Х	P-1989, LSD-1993
183				Dolichonyx oryzivorus	Bobolink			Y		LSD-1993
184			3		Rusty Blackbird			MW		LSD-1993
185					Brewer's Blackbird			MW		LSD-1993
186			5	Icterus galbula	Northern Oriole			YW		LSD-1993
187			6	I. spurius	Orchard Oriole			YM		LSD-1993
188			7	Molothrus ater	Brown-headed Cowbird			YW		LSD-1993
189			8	Quiscalus major	Boat-tailed Grackle			YB	Х	P-1989, LSD-1993
190				Q. quiscula	Common Grackle			YB	X	P-1989, LSD-1993
191			10	9	Eastern Meadowlark			YB	Х	P-1989, LSD-1993
192		Sturnidae)	European Starling			Y		LSD-1993
193	47	Thraupidae		•	Scarlet Tanager			YWM		LSD-1993
194					Summer Tanager			Y		LSD-1993
195	48	Fringillidae		aestivalis	Bachman's Sparrow			YW		LSD-1993
196				Ammodramus caudacutus	Sharp-tailed Sparrow			YW		LSD-1993
197				A. henslowii	Henslow's Sparrow			Y		LSD-1993
198				A. leconteii	Le Conte's Sparrow			Y		LSD-1993
199				A. savannarum	Grasshopper Sparrow	Е	Е	Y		LSD-1993
200			6	Cardinalis cardinalis	Northern Cardinal			XB	Х	P-1989, LSD-1993, L- 1996
201			7	Carduelis tristis	American Goldfinch			YW		LSD-1993
202			8		Blue Grosbeak			WMB	Х	P-1989, LSD-1993
203				Melospiza georgiana	Swamp Sparrow			W		LSD-1993
204				M. melodia	Song Sparrow			М		LSD-1993
205				Passer domesticus	·			Y		LSD-1993
206			12	Passerculus sandwichensis	Savannah Sparrow			MW		LSD-1993

207	13	Passerina ciris	Painted Bunting	YWM		LSD-1993
208	14	P. cyanea	Indigo Bunting	YW		LSD-1993
209	15	Pheucticus Iudovicianus	Rose-breasted Grosbeak	MW		LSD-1993
210	16	Pipilo erythrophthalmus	Rufous-sided Towhee	YMB	X	P-1989, LSD-1993
211	17	Pooecetes gramineus	Vesper Sparrow	M		LSD-1993
212	18	Spiza americana	Dickcissel	Υ		LSD-1993
213	19	Spizella passerina	Chipping Sparrow	YW		LSD-1993
214	20	S. pusilla	Field Sparrow	W		LSD-1993
215	21	Zonotrichia albicollis	White-throated Sparrow	W		LSD-1993

Appendix H: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-FAUNA SPECIES LIST REPTILES

KEY: From 1996 FGFWFC Listing- (E)ndangered, (T)hreatened, (S)pecies of (S)pecial (C)oncern

(Y)ear-round, (W)inter, (M)igrant, (B)reeding

(X) confirmed siting

(L)and (S)tewardship (D)ivision, (U)delhoven, (L)orenz and Birdsall, (P)olk County

Total				Species Names		Sta	tus	Pres	ence	
Count		Family		Genus Species	Common	Fed	State	Possi ble	Confir med	Identified by
1	1	Alligatoridae	1	Alligator mississippiensis	American Alligator	T	SSC	Υ	Χ	LSD-1993, L-1996
2	2	Chelydridae	1	Chelydra serpentina osceola	Florida Snapping Turtle			Υ		LSD-1993
3	3	Kinosternidae	1	Kinosternon baurii	Striped Mud Turtle		Е	Υ		LSD-1993
4			2	K. subrubrum steindachneri	Florida Mud Turtle			Υ		LSD-1993
5			3	Sternotherus odoratus	Common Musk Turtle			Υ		LSD-1993
6	4	Emydidae	1	Chrysemys floridana peninsularis	Peninsula Cooter			Y		LSD-1993
7			2	C. nelsoni	Florida Redbelly Turtle			Υ		LSD-1993
8			3	Deirochelys reticularia chrysea	Florida Chicken Turtle			Υ		LSD-1993
9			4	Terrapene carolina bauri	Florida Box Turtle			Υ		LSD-1993
10	5	Testudinnidae	1	Gorpherus polyphemus	Gopher Tortoise		SSC	Υ	Χ	LSD-1993, L-1996
11	6	Trionychidae	1	Trionyx ferox	Florida Softshell Turtle			Υ		LSD-1993
12	7	Gekkonidae	1	Sphaerodactylus notatus notatus	Florida Reef Gecko			Υ		LSD-1993
13	8	Iguanidae	1	Anolis carolinensis	Green Anole			Υ	Χ	LSD-1993, L-1996
14			2	A. sagrei sagrei	Brown Anole			Υ		LSD-1993
15			3	Sceloporus undulatus undulatus	Southern Fence Lizard			Υ		LSD-1993
16			4	S. woodi	Florida Scrub Lizard			Υ	Χ	LSD-1993, L-1996
17	9	Teiidae	1	Cnemidophorus sexlineatus sexlineatus	Six-lined Racerunner			Υ	Х	LSD-1993, L-1996
18	10	Scincidae	1	Eumeces egregius lividus	Bluetailed Mole Skink	Т	Т	Υ		LSD-1993
19			2	E. egregius onocrepis	Peninsula Mole Skink			Υ		LSD-1993
20			3	E. inexpectatus	Southeastern Five-lined Skink			Υ	Х	LSD-1993, L-1996
21			4	E. laticeps	Broadheaded Skink			Υ		LSD-1993
22			5	Neoseps reynoldsi	Florida Sand Skink	Т	Т	Υ		LSD-1993
23			6	Scincella lateralis	Ground Skink			Υ		LSD-1993
24	11	Anguidae	1	Ophisaurus attenuatus Iongicaudus	Eastern Slender Glass Lizard			Y		LSD-1993
25			2	O. ventralis	Eastern Glass Lizard			Υ		LSD-1993
26		Amphisbaenid ae	1	Rhineura floridana	Florida Worm Lizard			Υ		LSD-1993
27	13	Colubridae	1	Cemophora coccinea coccinea	Florida Scarlet			Υ		LSD-1993
28			2	Coluber constrictor paluticola	•			Υ		LSD-1993
29			3	C. constrictor priapus	Southern Black Racer			Υ	Х	LSD-1993, L-1996
30			4	Diadophis punctatus punctatus	Southern Ringneck Snake			Υ		LSD-1993
31			5	Drymarchon corais couperi	Eastern Indigo Snake	Т	Т	Υ		LSD-1993
32			6	Elaphe guttata guttata	Corn/Red Rat Snake			Υ		LSD-1993
33			7	E. obsoleta quadrivittata	Yellow Rat/Chicken Snake			Y	Х	LSD-1993, L-1996
34			8	E. obsoleta rossalleni	Everglades Rat Snake			Υ		LSD-1993
35			9	Farancia abacura abacura	Eastern Mud Snake			Υ		LSD-1993

36			10	F. erytrogramma seminola	Southern Fla. Rainbow Snake		Υ		LSD-1993
37			11	Heterodon platyrhinos	Eastern Hognose Snake		Υ		LSD-1993
38			12	H. simus	Southern Hognose Snake		Y		LSD-1993
39			13	Lampropeltis calligaster rhombomaculata	Mole Kingsnake		Y		LSD-1993
40			14	Lampropeltis getulus	Common Kingsnake		Υ		LSD-1993
41			15	L. triangulum elapsoides	Scarlet Kingsnake		Υ		LSD-1993
42			16	M. flagellum flagellum	Eastern Coachwhip		Υ	Х	LSD-1993, L-1996
43			17	Natrix cyclopion floridana	Fla. Green Watersnake		Υ	Х	LSD-1993, L-1996
44			18	N. fasciata pictiventris	Florida Watersnake		Υ		LSD-1993
45			19	N. taxispilota	Brown Watersnake		Υ		LSD-1993
46			20	Opheodrys aestivus	Rough Green Snake		Υ		LSD-1993
47			21	Pituophis melanoleucus mugitus	Florida Pine Snake	SSC	Υ		LSD-1993
48			22	Seminatrix pygaea pygaea	Swamp Snake		Υ		LSD-1993
49			23	Stilosoma extenuatum	Short-tailed Snake	Т	Y		LSD-1993
50			24	Storeria dekayi victa	Florida Brown Snake		Y		LSD-1993
51			25	Tantilla relicta relicta	Peninsula Crowned Snake		Y		LSD-1993
52			26	Thamnophis sauritus sackeni	Peninsula Ribbon		Υ		LSD-1993
53			27	T. sirtalis sirtalis	Eastern Garter		Υ		LSD-1993
54	14	Elapidae	1	Micrurus fulvius fulvius	Eastern Coral Snake		Υ		LSD-1993
55			2	Sistrurus miliarius barbouri	Dusty Pygmy		Y		LSD-1993
56	15	Viperidae	1	Agkistrodon contortrix contortrix	Southern Copperhead		Y		LSD-1993
57			2	A. piscivorus conanti	Florida Cottonmouth		Υ	Х	LSD-1993, L-1996
58			3	Crotalus adamanteus	Eastern Diamondback		Υ		LSD-1993

Appendix I: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-FAUNA SPECIES LIST AMPHIBIANS

From 1996 FGFWFC Listing- (E)ndangered, (T)hreatened, (S)pecies of (S)pecial (C)oncern (Y)ear-round, (W)inter, (M)igrant, (B)reeding

(X) confirmed siting
(L)and (S)tewardship (D)ivision, (U)delhoven, (L)orenz and Birdsall, (P)olk County

Total				Species Names		S	tatus	Presen	се	
Count		Family		Genus Species	Common	Fed	State	Possible	Confirmed	Identified by
1	1	Sirenidae	1	Pseudobranchus striatus axanthus	Narrow-striped Dwarf Siren			Υ		LSD-1993
2			2	P. striatus belli	Everglades Dwarf Siren			Y		LSD-1993
3			3	Siren intermedia intermedia	Eastern Lesser Siren			Y		LSD-1993
4			4	S. lacertina	Greater Siren			Υ		LSD-1993
5	2	Amphiumidae	1	Amphiuma means	Two-toed Amphiuma			Υ		LSD-1993
6	3	Salamandridae	1	Notophthalmas perstriatus	Striped Newt			Y		LSD-1993
7			2	N. viridescens Iouisianensis	Central Newt			Y		LSD-1993
8	4	Plethodontidae	1	Eurycea quadridigitata	Dwarf Salamander			Υ		LSD-1993
9	5	Pelobatidae	1	Scaphiopus holbrooki	Eastern Spadefoot			Y		LSD-1993
10	6	Bufonidae	1	Bufo quercicus	Oak toad			Y	Х	LSD-1993, L- 1996
11			2	B. terrestris	Southern Toad			Υ	Х	LSD-1993, L- 1996
12	7	Hylidae	1	Acris gryllus dorsalis	Florida Cricket Frog			Y	Х	LSD-1993, L- 1996
13			2	Hyla cinerea	Green Treefrog			Υ		LSD-1993
14			3	H. femoralis	Pinewoods Treefrog			Υ		LSD-1993
15			4	H. gratiosa	Barking Treefrog			Υ		LSD-1993
16			5	H. septentrionalis	Cuban Treefrog			Y		LSD-1993
17			6	H. squirella	Squirrel Treefrog			Υ		LSD-1993
18			7	Limaoedus ocularis	Little Grass Frog			Y		LSD-1993
19			8	Pseudacris nigrita verrucosa	Florida Chorus Frog			Y		LSD-1993
20	8	Microhylidae	1	Gastrophryne carolinensis carolinensis	Eastern Narrow- mouthed Toad			Y		LSD-1993
21	9	Ranidae	1	Rana areolata aesopus	Florida Gopher Frog		SSC	Υ		LSD-1993
22			2	R. catesbeiana	Bullfrog			Υ		LSD-1993
			3	R. clamitans	Green Frog				Х	L- 1996
23			4	R. grylio	Pig Frog			Υ		LSD-1993
24			5	R. sphenocephala	Southern Leopard Frog			Υ	Х	LSD-1993, L- 1996

Appendix J: LAKE MARION CREEK/REEDY CREEK MANAGEMENT AREA-**FAUNA SPECIES LIST MAMMALS**

From 1996 FGFWFC Listing- (E)ndangered, (T)hreatened, (S)pecies of (S)pecial (C)oncern (Y)ear-round, (W)inter, (M)igrant, (B)reeding (X) confirmed siting KEY:

Total			1 ()	vivision, (U)delhoven, (L)orenz and Birdsall, (P)olk County Species					Presence			
Count	Order		Family		Genus Species		Common	Fed	State	Possible	Confirmed	Identified by
1	1	Marsupialia	1	Didelphiidae	1	Didelphis marsupialis	Opossum			Υ		LSD-1993
2	2	Insectivora	1	Soricidae	1	Blarina carolinenus carolinenus	Short-tailed Shrew			Y		LSD-1993
3			2		2	B. carolinenus shermani	Sherman's Short- tailed Shrew		SSC	Y		LSD-1993
4			3		3	Cryptotis parva	Least Shrew			Υ		LSD-1993
5			4	Talpidae	4	Scalopus aquaticus	Eastern Mole			Y		LSD-1993
6	3	Chiroptera	1	Vespertilionidae	1	Eptesicus fuscus fuscus	Big Brown Bat			Y		LSD-1993
7			2		2	Lasiurus cinereus	Hoary Bat			Υ		LSD-1993
8			3		3	L. intermedius floridanus	Northern Yellow Bat			Y		LSD-1993
9			4		4	L. seminolus	Seminole Bat			Υ		LSD-1993
10			5		5	Myotis austroriparius	Southeastern Brown Bat			Y		LSD-1993
11			6		6	Nycticeius humeralis	Evening Bat			Υ		LSD-1993
12			7		7	Pipistrellus subflavus	Eastern Pipisterl			Y		LSD-1993
13			8		8	Plecotus rafinesquei	Eastern Big-eared Bat			Y		LSD-1993
14			9	Molossidae	1	Eumops glaucinus floridanus	Florida Mastiff Bat		Е	Y		LSD-1993
15			10		2	Tadarida brasilienus cynocephala	Brazilian Free-tailed Bat			Y		LSD-1993
16	4	Carnivora	1	Ursidae	1	Ursus americanus floridanus	Florida Black Bear		Т	Y		LSD-1993
17			2	Procyonidae		Procyon lotor	Raccoon			Y	Х	LSD-1993, L- 1996
18			3	Mustelidae	1	Lutra canadenis	River Otter			Y		LSD-1993
19			4		2	Mephitis mephitis	Striped Skunk			Y		LSD-1993
20			5		3	Mustela frenata	Long-tailed Weasel			Y		LSD-1993
21			6		4	M. frenata peninsulae	Florida Weasel			Υ		LSD-1993
22			7		5	M. vison mink	Southern Florida Mink			Y		LSD-1993
23			8		6	Spilogale putorius	Spotted Skunk			Y		LSD-1993
24			9	Canidae	1	Canis latrans	Coyote			Y		LSD-1993
25			10		2	Uroncyon cinereoargenteus	Gray Fox			Y		LSD-1993
26			11		3	Vulpes fulva	Red Fox			Y		LSD-1993
27				Felidae	1	Felis concolor caryl	Florida Panther	Е	Е	Y		LSD-1993
28			13		2	Lynx rufus	Bobcat			Y		LSD-1993
29	5	Rodentia	1	Sciuridae	1	Glaucomys volans	Southern Flying Squirrel			Y		LSD-1993
30			2		2	Sciurus carolinensis	Eastern Gray Squirrel			Y		LSD-1993
31			3		3	S. niger avicennia	Big Cypress Fox Squirrel		Т	Y		LSD-1993
32			4			S. niger shermani	Sherman's Fox Squirrel		SSC	Y		LSD-1993
33			5	Geomyidae	1	Geomys pinetis	Southeastren Pocket Gopher			Y		LSD-1993
34	I		6	Cricetidae	1	Podomys floridanus	Florida Mouse		SSC	Υ		LSD-1993

35			7		2	Reithrodontomys humulis	Eastern Harvest Mouse	Y		LSD-1993
36			8		3	Peromyscus gossypinus	Cotton Mouse	Y		LSD-1993
37			9		4	P. polionotus	Oldfield Mouse	Υ		LSD-1993
38			10		5	Neotoma floridana	Eastern Woodrat	Υ		LSD-1993
39			11		6	Oryzomys palustris	Rice Rat	Υ		LSD-1993
40			12		7	Sigmodon hisipus	Hispid Cotton Rat	Y		LSD-1993
41			13		8	Neofiber alleni	Florida Water Rat	Υ		LSD-1993
42	6	Lagomorpha	1	Leporidae	1	Sylvilagus floridanus	Eastern Cottontail	Υ		LSD-1993
43			2		2	S. palustris	Marsh Rabbit	Υ		LSD-1993
44	7	Artiodactyla	1	Suidae	1	Sus scrofa	Feral Hog	Y	Х	LSD-1993, L- 1996, U-1997
45			2	Cervidae	1	Odocoileus virginianus	Whitetail Deer	Y	Х	LSD-1993, U- 1997
46	8	Xenarthra	1	Dasypodidae	1	Dasypus novemcinctus	Armadillo	Y		LSD-1993

Appendix K:

Contact List for the Lake Marion Creek & Reedy Creek Management Area

Florida Department of State, Division of Historical Resources Heather Percy, Florida Master Site File R.A. Gray Building, 500 South Borough, Tallahassee, FL 32399-0250 Tel: (850) 488-1480; Fax: (850) 488-3353

Florida Division of Forestry, Department of Agriculture Polk County – District 14 Office Mark Hebb, District Manager Gary Zipper, Area Supervisor 5745 S. Florida Avenue, Lakeland, Florida 33813 Tel: (941) 648-3163, Fax: (941) 648-3169

Florida Division of Forestry, Department of Agriculture Osceola County - District 12 Office John Koehler, District Manager Tom Donahoe, Area Supervisor 8431 South Orange Blossom Trail, Orlando, FL 32809 Tel: (407) 856-6512, Fax: (407) 856-6514

Florida Fish and Wildlife Conservation Commission, South Region Wildlife Management Area proposal contacts and Law Enforcement 1239 S.W. 10th Street, Ocala, Florida 34474-2797 Telephone 1-800-282-8002

Florida Fish and Wildlife Conservation Commission, South Region Law Enforcement 3900 Drane Field Road, Lakeland, FL 33811 Tel: (941) 648-3200, Fax: (941) 680-5594

Florida Fish and Wildlife Conservation Commission Office of Environmental Services Sharon Arnold, Records Technician 620 South Meridian Street, Tallahassee, FL 32399-1600 Tel: (904) 488-6661, Fax: (904) 922-5679

Osceola County Fire Department 17 South Vernon Avenue, Kissimmee, Florida 34741 Non-Emergency: (407) 932-5338 Dispatch Tel: (407) 348-8688 Emergency Telephone: 911

Osceola County Sheriff's Office 400 Simpson Road, Kissimmee, FL 34744-4494 Non-Emergency Telephone: (407) 348-2222

Emergency Telephone: 911

Polk County Fire Services P.O. Box 1458, Bartow, Florida 33831 Non-Emergency Telephone: (941) 534-0380 Communications Center: (941) 534-0360

Emergency Telephone: 911

Polk County Sheriff's Office 455 N. Broadway Avenue, Bartow, FL 33830-3998 Non-Emergency Telephone: (941) 533-0444 Emergency Telephone: 911

South Florida Water Management District, Dupuis Reserve David Black, Monitoring Coordinator 23500 S.W. Kanner Highway Canal Point, Florida 33438 Telephone: (561) 924-5310

South Florida Water Management District, Headquarters Fred Davis, Department Director Marjorie Moore, Mitigation Area Program Coordinator 3301 Gun Club Road, West Palm Beach, Florida 33406 Telephone: 1-800-686-2511 Fax: (561) 681-6233

South Florida Water Management District, Orlando Service Center Upper Lakes Regional Land Manager, Resource Protection Coordinator, LSP David Birdsall, Upper Lakes Land Manager, LSP Vincent Matera, Upper Lakes Land Management Technician, LSP 1707 Orlando Central Parkway Suite 200 Orlando, Florida 32809 Telephone: 1-800-250-4250

South Florida Water Management District, Okeechobee Service Center Jeff Mclemore, Forestry Coordinator Harold Price, Range Coordinator 205 North Parrot Avenue, Suite 201, Okeechobee, Florida 34972 Telephone: 1-800-250-4200

Fax: (863) 462-5269

Student Conservation Association, Inc. 689 River Road P.O. Box 550 Charlestown, NH 03603 Telephone: (603) 543-1700 www.sca-inc.org

United States Army Corps of Engineers Bill Cavitt 6406 U. S. Highway 27 Sebring, Florida 33870 Telephone: (813) 840-0824

United States Fish and Wildlife Service P.O. Box 2676 Vero Beach, Florida 32961 Telephone (561) 562-3909

Appendix L: Burn Prescription

Authorization No. Burn Date

FIRE PRESCRIPTION

FIELD OPERATIONS - Land Stewardship Program

Orlando Service Center

South Florida Water Management District 7335 Lake Ellenor Drive, Orlando, Florida 32809

Telephone: (800) 250-4250

SFWMD Parcel: S T R

County:

Burn Unit Number: Acres to Burn: ac.

Distance to Disk: mile(s)

Burn Unit vegetation:

Overstory Type and Height:

Understory Type and Height:

Fuel Loading: High Medium Low

Date of last fire: Topography and Soil: Purpose of Burn:

- Reduce the fuel load.

- Reintroduce fire into the system.
- Burn to manage fire adapted communities.
- Maintain or enhance natural community.

Ignition Plan:

- Backfire downwind side
- Strip head
- Flank

Special Precautions: Clear area of nonessential personnel. Close/lock gate to prevent hikers from accessing the area.

No Burn Situation: Dry, muck soil.

Range of Desired Weather Preferred Actual

Surface Winds (speed and direction): mph N - E - S - W

Transport Winds (speed and direction): mph N - E - S - W Mixing Height:

feet

Min. Relative Humidity:

Max. Temperature: degrees

Dispersion Index:

Days since Rain:

Fine Fuel Moisture estimate

Fire Behavior

Type of Fire: Strip, Back, Flank, Head

Flame Length:

Desired Fire Intensity: HOT 5 4 3 2 1 COOL

Preferred Month(s) of Burn: season. J F M A M J J A S O N D

Starting Time: am

Appendix L: Burn Prescription (continued)

Certified Burn Manager Signature_____

Certification No. Date of Prescription:

Smoke Management (See fire plan for more details) Smoke Screening Passed -Smoke Sensitive Areas: Smoke Precautions: Monitor smoke column. Adjacent landowner Contacts: Routine Contacts: SFWMD (Fred Davis, Director, Land Stewardship): 561-687-6636 LSD Field Office: 561-924-5310 (DuPuis Reserve) SFWMD (Olivia McLean, Emergency Manager): 561-687-6218 DOF District Office (Dundee): (941)421-3702/Lakeland 941)648-3163. Kissimmee Field Station: (407)847-5067 Florida Power (let dispatch know) 1-800-700-8744 Required Resources: 6 burners (3 operators), 2 pumper units, dozer or tractor with disk or loader, 2 ATVs, smoke signs. Holding and Contingency: Mop up: Extinguish all visible and smoldering flames. Check perimeter. Fire out: When mop up is complete. Safety Check: PPE for entire crew. All equipment operational and in position. Immediate Evaluation Burn objectives met: Spotover/Escapes: Smoke Problems: Public Contacts: Other observations (Wildlife etc.): _____ Prescription done by